

Oct. 1943

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PLANNED NEIGHBORHOODS FOR 194X

# THE ARCHITECTURAL FORUM

OCTOBER 1943





## WARTIME EMERGENCY BRINGS A MODEL COMMUNITY

THE ATTRACTIVE HOMES illustrated represent the start of what may well be a significant change in American building.

The Glenn L. Martin Company, of Baltimore, builder of the famous "Marauder" medium bomber, needed permanent homes immediately, for 28,000 new workers. Out of 32 types of houses which were examined, one was chosen—the Celotex Cemesto House, incorporating the John B. Pierce Foundation Method of Construction.

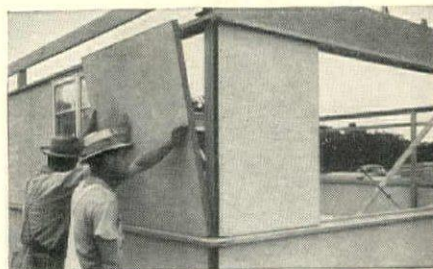
Because of years of research, The Celotex Corporation was ready to meet this wartime emergency with low-cost permanent dwellings which provided basic comforts and conveniences, and fast "on-the-site" pre-fabricated construction.

And out of this Martin version of the Celotex Cemesto House have come

other huge community developments. These communities have been built in every geographical location and climate. Results in all cases have been completely satisfactory.

The Cemesto complete wall unit provides both exterior and interior finish, with great strength and ample insulation qualities. Cane fibre insulation core is sealed with a waterproof compound between two layers of weather-, fire- and wear-resistant asbestos and cement.

In the not too distant future, when private enterprise will again lead the way in housing America's millions, the Celotex Cemesto House will play a vital role in community building. It will provide a range in cost that will enable every American family to make its dream come true—the joy of living in a comfortable home of its own!



*A Cemesto panel is nailed to corner wood column in one of the Martin Company houses. This is one phase of the John B. Pierce Foundation horizontal construction method.*



*An end truss, pre-fabricated on the building site, and equipped with ventilating louvers, is fitted into position. All wood framing members, pre-fitted windows and Cemesto panels for exterior walls were set in place in 35 man-hours on the Martin community development.*

**CELOTEX**  
REG. U. S. PAT. OFF.  
**CEMESTO**  
REG. U. S. PAT. OFF.  
**INSULATING WALL UNITS**



THE CELOTEX CORPORATION, Dept. AF-10, Chicago, Illinois

Please send me full information about Cemesto Wall Units as well as your architects' booklet, "Cemesto with Wood Framing."

Name

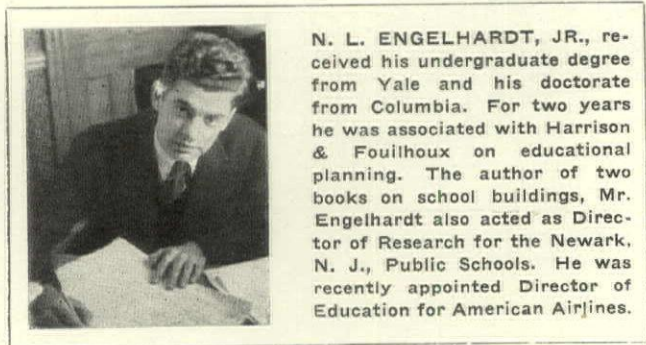
Address

City  State



# THE SCHOOL-NEIGHBORHOOD NUCLEUS

N. L. Engelhardt, Jr., analyzes the residential community from the standpoint of the requirements of a modern educational program, defines the basic neighborhood unit served by the elementary school.



N. L. ENGELHARDT, JR., received his undergraduate degree from Yale and his doctorate from Columbia. For two years he was associated with Harrison & Foulhoux on educational planning. The author of two books on school buildings, Mr. Engelhardt also acted as Director of Research for the Newark, N. J., Public Schools. He was recently appointed Director of Education for American Airlines.

THE EDUCATIONAL responsibilities of neighborhood planners have been much too frequently overlooked or avoided in the past. Every designer, builder of homes and communities is an educator. He may not have the professional educational training of a teacher or school superintendent, but the work which he does and the designs which he creates can be of far greater import in the education of children and their parents than anything the school can contribute. All too often, schools are required to establish programs which will counteract unfavorable neighborhood conditions. This is needless waste of energy which can be avoided by the simple expedient of recognizing the educational problems at the outset of any neighborhood planning.

Education is the result of living. Good living when associated with the guidance which good schools can provide results in the very best community. A mediocre community develops when a poor school is placed in a good environment, and a poor community is the end product of the lack of any relationship between the school and the neighborhood. During the past 30 years, many community planners and city fathers felt that by the erection of a monumental school building they could bring about the desirable educational program. The schooling of children was thought of as a mechanized routine which could be best carried on in an institution—the school building—which was set apart from the homes and workplaces of the community. Many of us now know from our own experiences, if not from the results of educational research, that this attitude toward education is basically wrong, and frequently results in the training of children without any reference to the realities of the life which they are living. The best education is the result of a well-conceived neighborhood plan in which the school has been created as an integral part of the daily life of all the people who reside in the community. It is in this respect that every neighborhood planner is an educator, for the environment which he creates, the experiences which he provides for children and adults, and the setting which he gives to the school will have far greater impact on the education of the people than any program which can be carried on within the narrow confines of a classroom.

## EDUCATIONAL ORGANIZATION

The organization of the educational and school program is an important function of the size of the neighborhood and the character of educational facilities to be provided.

School organizations vary widely and include the following basic types:

- A. Nursery school for 3- and 4-year-old infants.
- B. Kindergarten for 5-year-old children.
- C. Elementary school, grades 1 to 6 inclusive, for children between the ages of 6 and 11.
- D. Elementary school, grades 1 to 8 inclusive, for children between the ages of 6 and 13.
- E. Junior high school, grades 7-9, in combination with (C) above.
- F. Middle school, grades 7-10, in combination with (C) above.
- G. Senior high school, grades 10-12, in combination with (C) and (E) above.
- H. Senior high school, grades 9-12, in combination with (D) above.
- I. Upper school, grades 11-14, including junior college years, in combination with (C) and (F) above.

It will be readily seen that the basic neighborhood unit will be concerned with the first four of these organizations. However, no neighborhood could be well-planned except as it is done in relation to the total educational program, whether this be within a given development or in connection with established schools outside of the new district. For example, if the only available high school is organized on a basis of grades 9-12, as in (H) above, it would be necessary to design a neighborhood around an elementary school organization of grades 1-8. This would require a larger neighborhood than if only grades 1-6 were to be provided for.

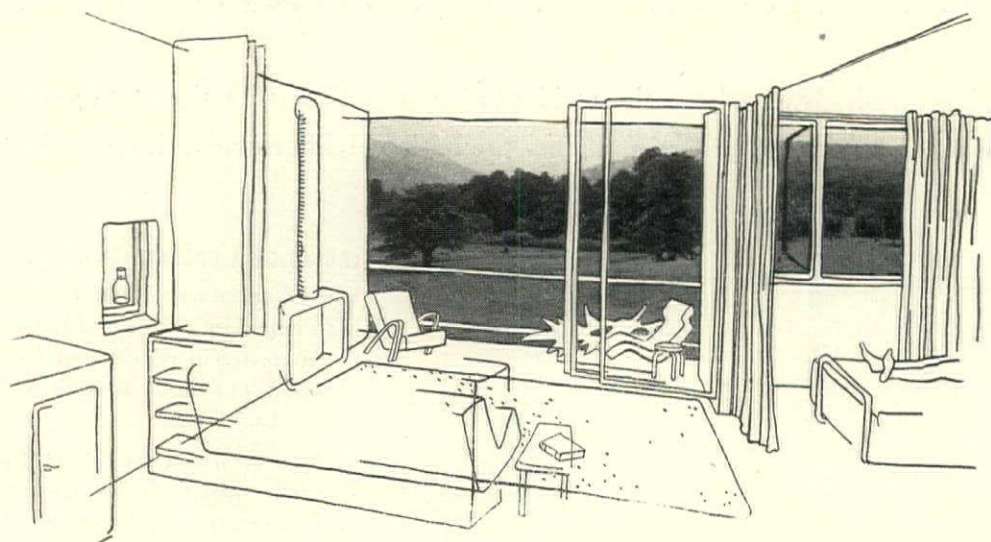
## ENROLLMENT AND NEIGHBORHOOD SIZE

There are minimum and maximum enrollments for classes and schools within which an educational program can be operated most economically and effectively. These are shown in the following table:

Grades	Ages of Children	No. in Class			Min. No. of Classes	Size of School		
		Min.	Max.	Avg.		Min.	Max.	Avg.
Nursery	3-4	10	15	12	2	20	—	—
Kindergarten	5	15	25	20	2	20	—	—
Grades 1-3	6-8	20	30	28	7	140	—	—
Grades 4-6	9-11	25	35	32	6	150	—	—
Grades 7-9	12-14	30	35	32	20	600	1,200	800
Grades 10-12	15-17	30	35	32	30	900	2,000	1,500
Grades 1-6	6-11	23	33	28	13	290*	800	600
Grades 1-8	6-13	25	33	31	17	410*	1,000	800
Grades 9-12	14-17	30	35	32	30			
Grades 7-10	12-15	30	35	32	20			

\*Based on small classes generally not feasible except in wealthy communities. For average class sizes school enrollment should be nearer 400. The same proposition holds true for the minimum size of a school housing grades 1-8, only in this case the enrollment should be nearer 600.



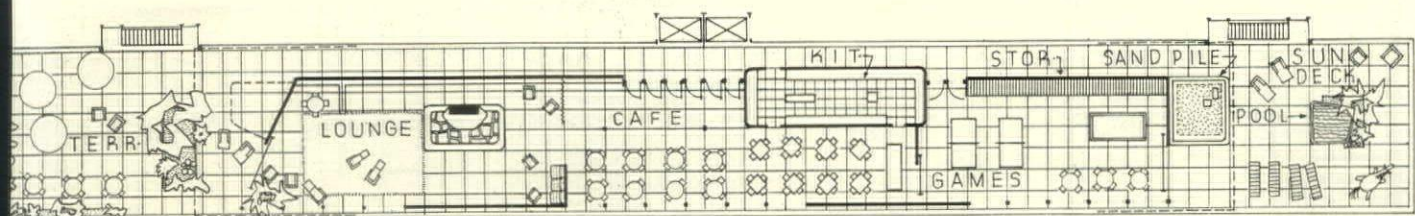


**APARTMENT BUILDINGS** provide eight apartments per floor, reached from a pair of elevators at the center of the building by an open, balcony-type corridor. Apartments range in size and rental from a two-room unit with a combined living-bedroom (above), planned to rent at \$37.50 per month, through one- and two-bedroom units (\$57.50 and \$70), to an end unit with two bedrooms renting for \$80. All of the apartments have open porches on the side of the building opposite the balcony-corridor, and all major rooms face in this direction. The ground floor level of each of the buildings is developed for a cafeteria and nursery in addition to the usual lobby and lounge, and another cafe, as well as a lounging and play space, is planned for the roof. Sub-neighborhood shopping centers are connected to the ground floors by porte-cocheres.

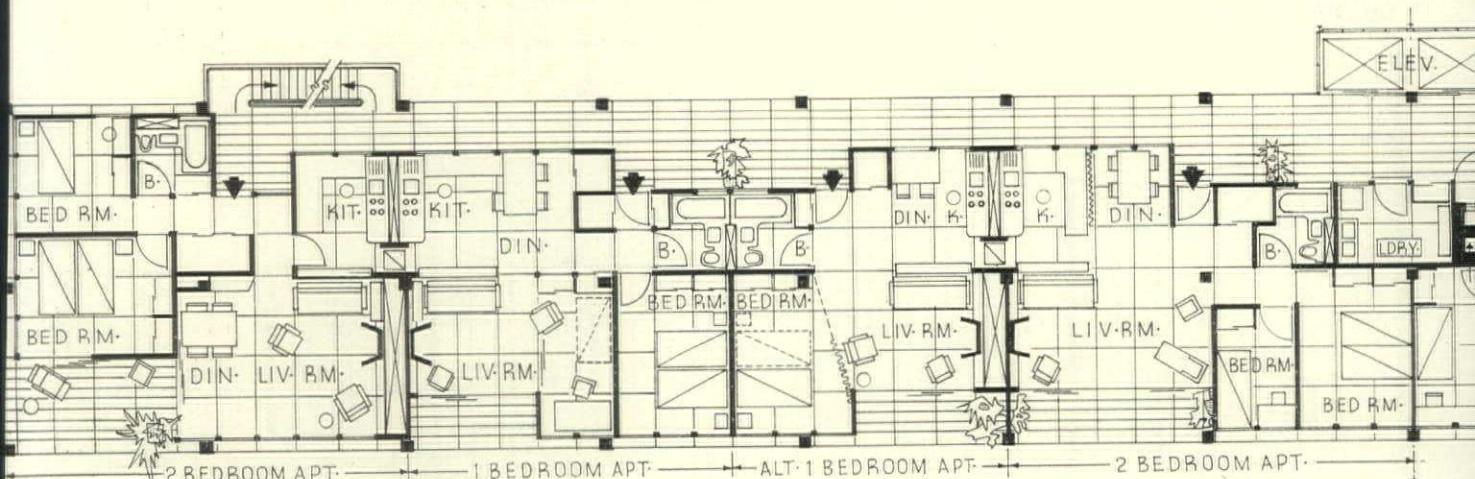


PHOTO-DRAWING MONTAGE SHOWS 13-STORY APARTMENT IN PLANNED SETTING AMONG LARGE EXISTING TREES

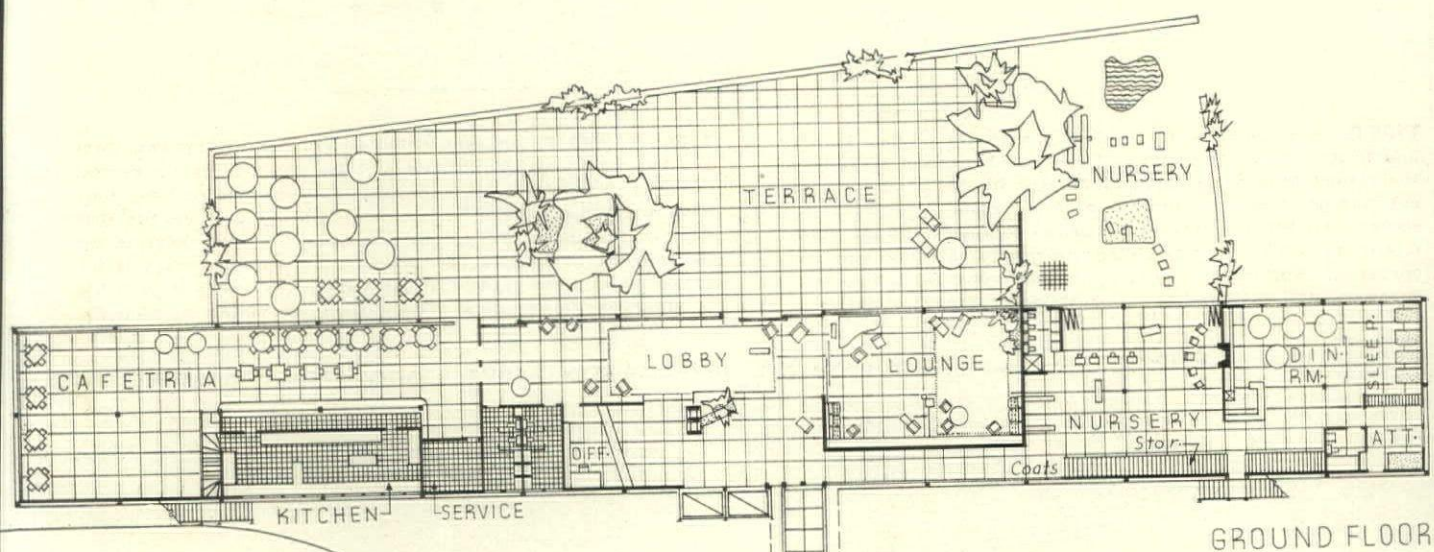




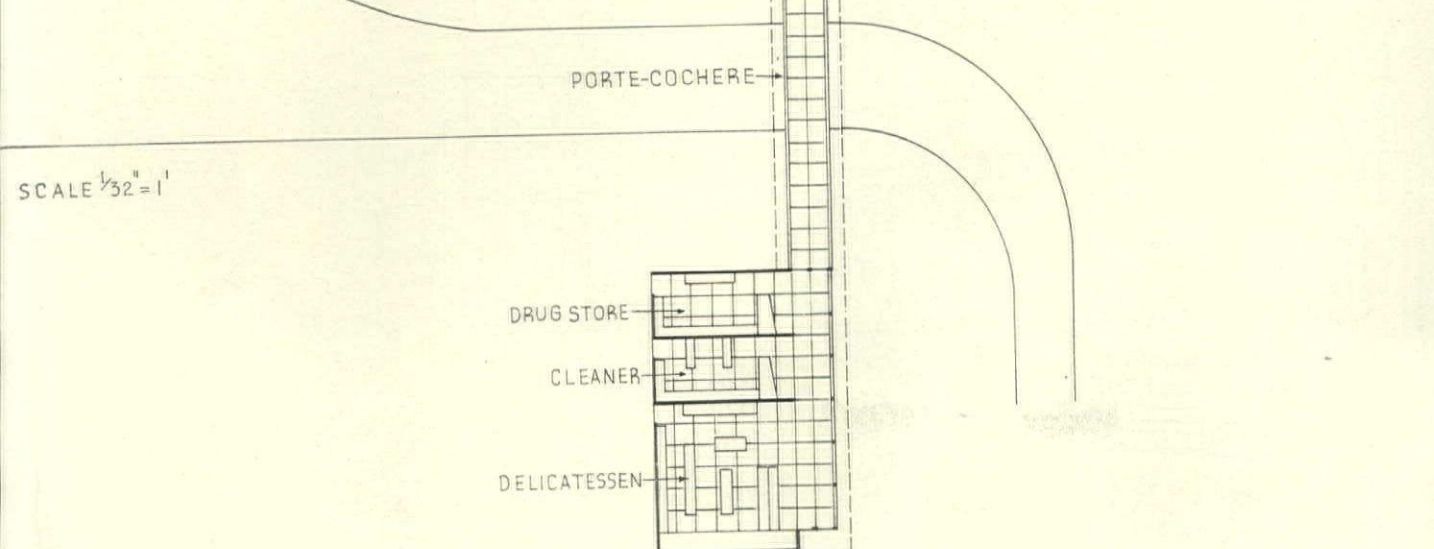
ROOF



TYPICAL FLOOR

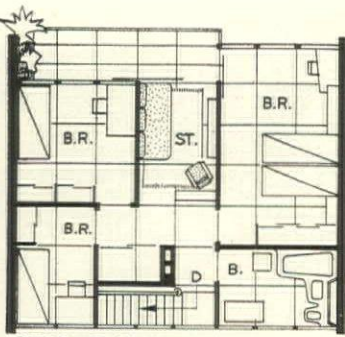


GROUND FLOOR



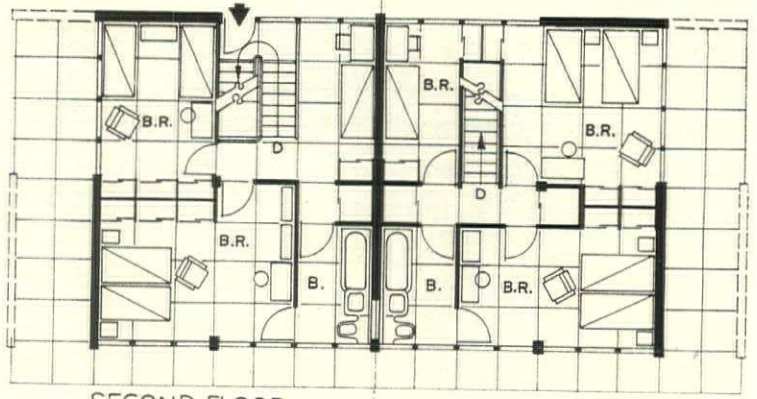
DRUG STORE  
CLEANER  
DELICATESSEN



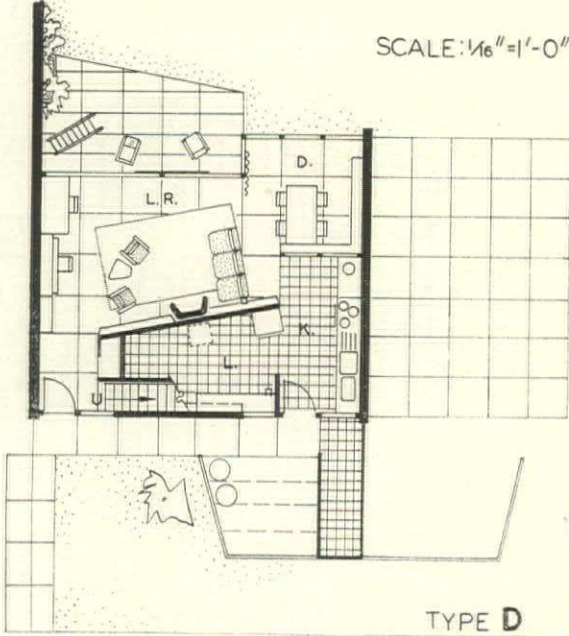


SECOND FLOOR

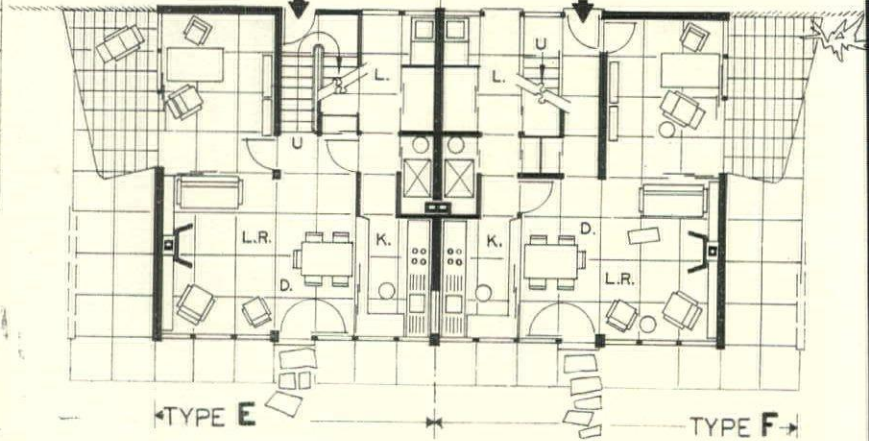
SCALE: 1/16" = 1'-0"



SECOND FLOOR



TYPE D



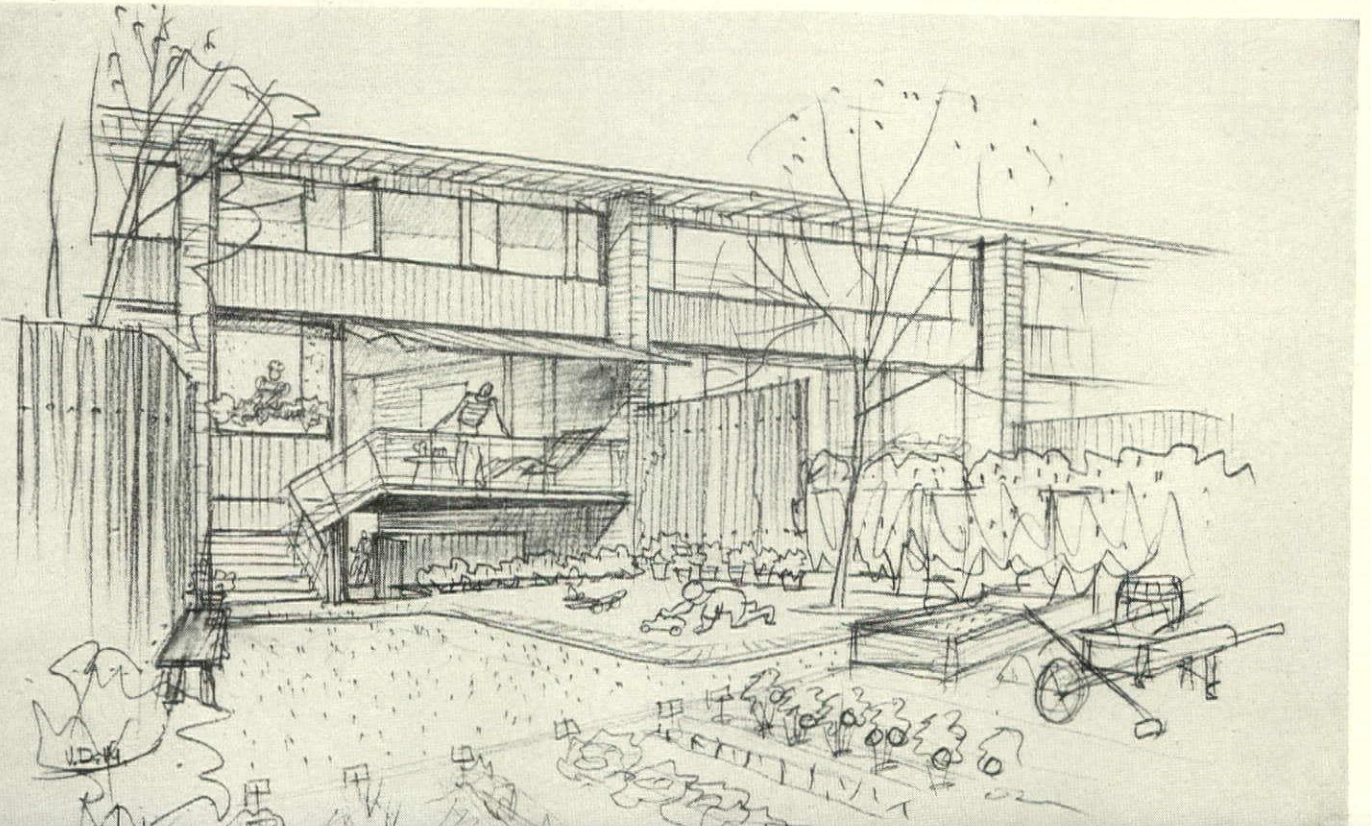
TYPE E

TYPE F

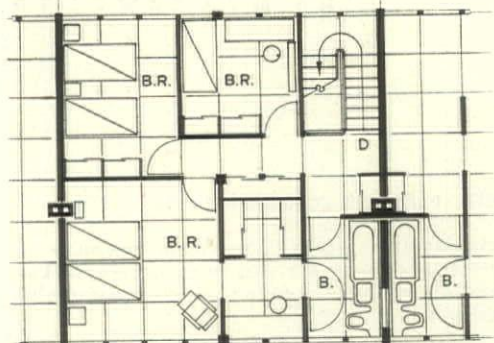
**TYPE D.** is a row house for level sites, with ground floor laundry and heater room. It provides three bedrooms and a study on the second floor and is planned to rent for \$60 a month without garage. Features include a living room fireplace and a second-floor balcony serving two of the bedrooms and the study. A kitchen service yard and separate service entrance (the only one of its type in the project) are also included. Living room opens on semi-sheltered terrace through sliding glass doors.

**TYPES E. AND F.** are semi-detached houses providing two, three and four bedrooms, planned to rent for \$82.50 to \$100 a month. Intended for level sites and basementless construction, they have the same kitchen-heater room-laundry unit on the first floor as that used in Type C. The small bedroom next to the stairway on the second floor may be left open on the side for use as a study and occasional guest room (as shown in plan E), or enclosed for use as a maid's room (as shown in plan F).

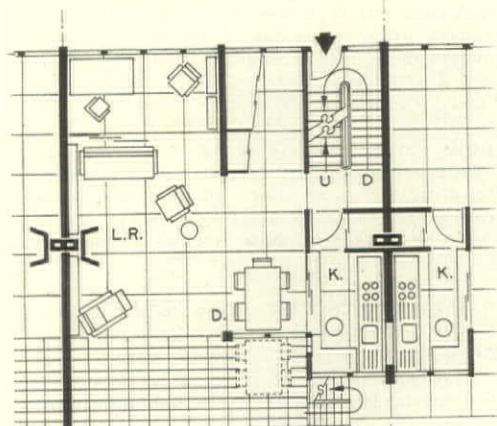
GARDEN SIDE OF TYPE A. UNIT, HAS LIVING ROOM BALCONY SLIGHTLY ABOVE GRADE, OPEN GARAGE BELOW





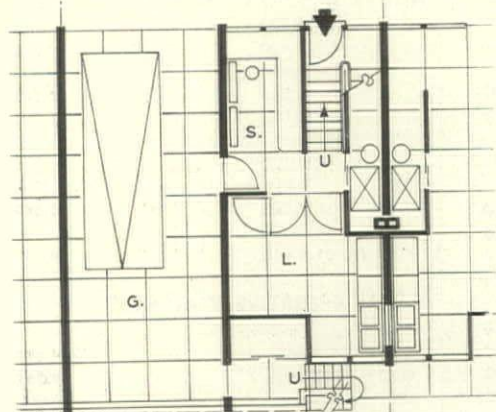


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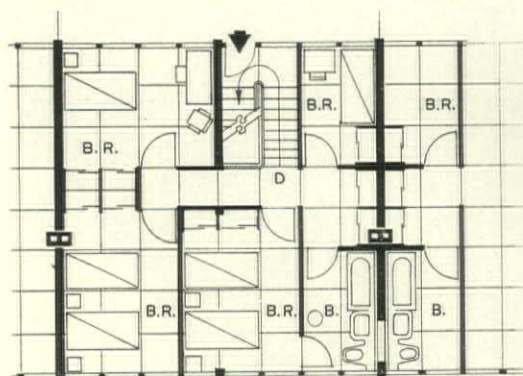
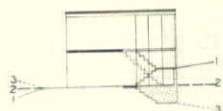
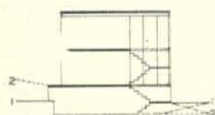


FIRST FLOOR

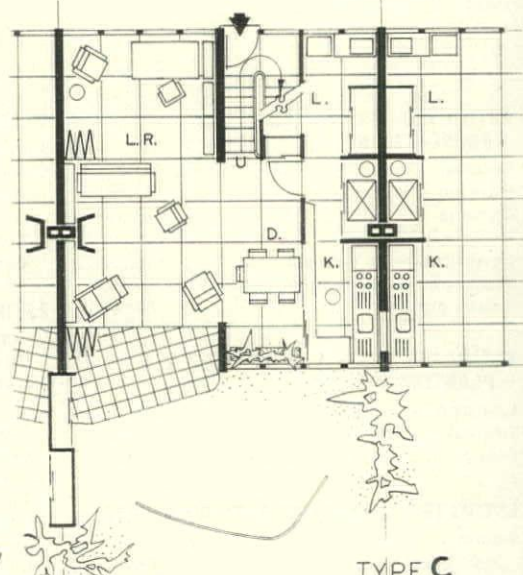
TYPE A - 2 B.R.'s  
TYPE B - 4 B.R.'s



GROUND FLOOR

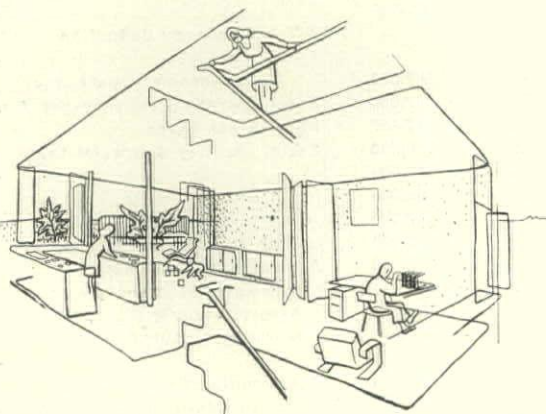


SECOND FLOOR

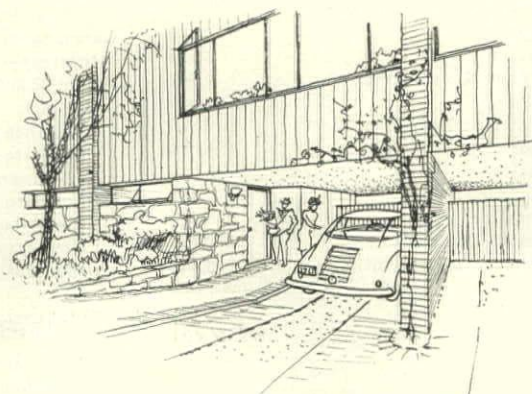


TYPE C

SCALE: 1/16" = 1'-0"



HOUSES ARE OPEN FRONT TO BACK ON FIRST FLOOR



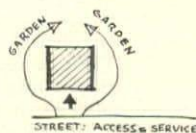
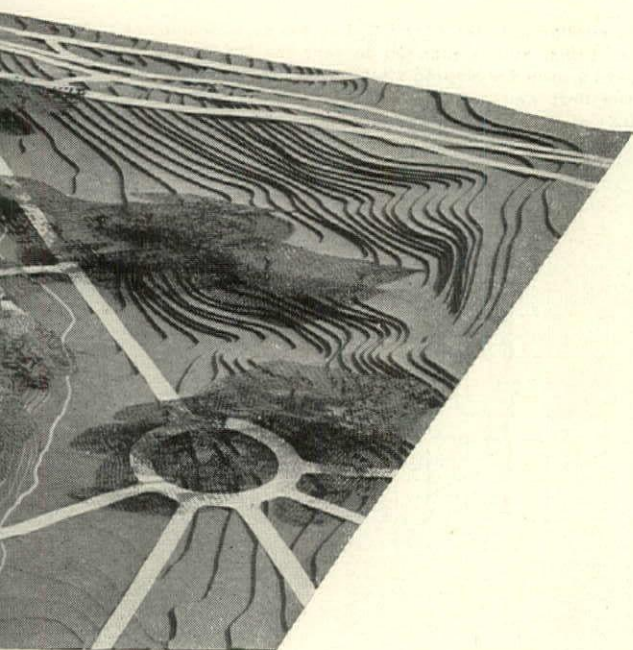
GROUND FLOOR GARAGES FOR SLOPING SITES

**TYPES A. AND B.** (left) are row houses of two to four bedrooms, designed to rent for \$60 to \$100 a month. The kitchen-stairhall side of the plan is identical in both types, as is the basement laundry and heater room. The B type is 8 ft. wider than Type A, and has two additional bedrooms (or an additional bedroom and dressing room) on the second floor, a coat room on the first floor, and a hobby space in the basement. Intended for sloping sites, both plans have been developed with a basement garage which may be entered from either side of the building. Pedestrian entrance is by way of a landing on the main stair, and may be either a half-floor above or a half-floor below the first floor level.

**TYPE C.** (below) is similar to types A and B, but has no basement or garage. It provides four bedrooms, and is planned to rent for \$82.50 a month. The plan as shown would be used for sloping sites, with the entrance on the stair landing between the first and second floors; for level sites a straight-run stair would be used. Laundry and heater rooms are provided on the first floor.

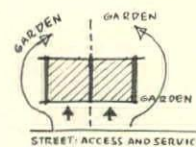


# STEEPER SLOPES, ROW HOUSES ARE PLANNED FOR ROLLING MEADOWLAND

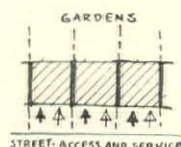


## SITE PLANNING CONSIDERATIONS

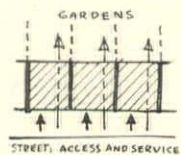
**DETACHED HOUSE:** Complete flexibility in location of service areas, garden, garage. Extravagant in land and utility uses compared with other types.



**DOUBLE HOUSE:** Most advantages of detached house. Allows greater distance to adjacent houses for side yard privacy.



**ROW HOUSE (Group houses):** Economical in land coverage and utility costs. All service from front unless back alleys are provided (duplicating streets and destroying privacy) Garages must be located at ends of rows or on alleys.



**RAISED ROW HOUSE:** Allows direct access to garden and alternate locations for service areas. Gives "porte-cochere" access to house from car. Design affirms use of street side as auto entrance—garden side as pedestrian entrance to house.

## ESTIMATED COST—UTILITIES & FOUNDATIONS

Streets	\$62,200
Parking areas	54,600
Curbing	36,000
Private walks	24,000
Sewer mains & connections	99,750
Water mains & connections	99,750
Rough grading	50,000

## ESTIMATED COST—LANDSCAPING & PLANTING

Lawns & planting	\$50,000
Drainage & culverts	5,000
Playgrounds (not incl. pool)	5,000

## ESTIMATED ANNUAL OPERATING EXPENSE

<b>Administrative expense:</b>	
Advertising	\$4,000
Management	32,508
<b>Operating Expense:</b>	
Fuel	11,200
Janitor's supplies	4,300
Lighting & misc. power	14,700
Water	4,800
Gas	5,570
Garbage & ash removal	2,700
Payroll	65,429
<b>Maintenance Expense:</b>	
Decorating	31,116
Repairs	16,836
Exterminating	2,400
Insurance	15,126
Grounds (materials)	2,000
Furniture & furnishings	3,500
<b>Total</b>	<b>216,185</b>
Replacement reserve	26,000
	<b>\$242,185</b>
<b>Total operating expense per unit per annum</b>	<b>\$252.28</b>

## RESOURCES

Land (174 A. @ \$2,000)	\$348,000
Cash (exclusive of wkg. capital)	720,770
Mortgage-loan proceeds	5,200,000
<b>Total resources</b>	<b>\$6,268,770</b>
Cash working capital	156,000

## ESTIMATED REQUIREMENTS

<b>Land improvements:</b>	
New utilities	\$451,300
Landscape work	60,000
<b>Total land improvements</b>	<b>511,300</b>
<b>Construction:</b>	
Dwellings	4,765,720
Theater	100,000
Restaurant	50,000
Stores	80,000
Swimming pool	75,000
Gas station	10,000
<b>Total construction</b>	<b>5,080,720</b>
<b>Total improvements</b>	<b>5,592,020</b>
<b>Carrying charges, financing:</b>	
Interest—12 mos. @ 4% on \$5,200,000	208,000
Taxes	37,000
Insurance	17,150
FHA mtge. ins. premium	26,000
FHA examination fee	15,600
Financing expense	52,000
Title & recording expense	7,000
Legal expense	5,000
Organization expense	2,000
<b>Total carrying charges</b>	<b>369,750</b>
<b>Total estimated requirements, excluding land</b>	<b>5,961,770</b>
Land—174 A. @ \$2,000	348,000
Cash working capital	156,000

## CONSTRUCTION COST

<b>HOUSE A</b>	13,520 cu. ft. @ 42¢	\$5,678
<b>B</b>	18,720 " " "	7,862
<b>C</b>	14,400 " " "	6,048
<b>D</b>	11,840 " " "	4,973
<b>E</b>	12,395 " " "	5,206
<b>F</b>	15,960 " " "	6,703

## APTS. Cub. incl. share of common space

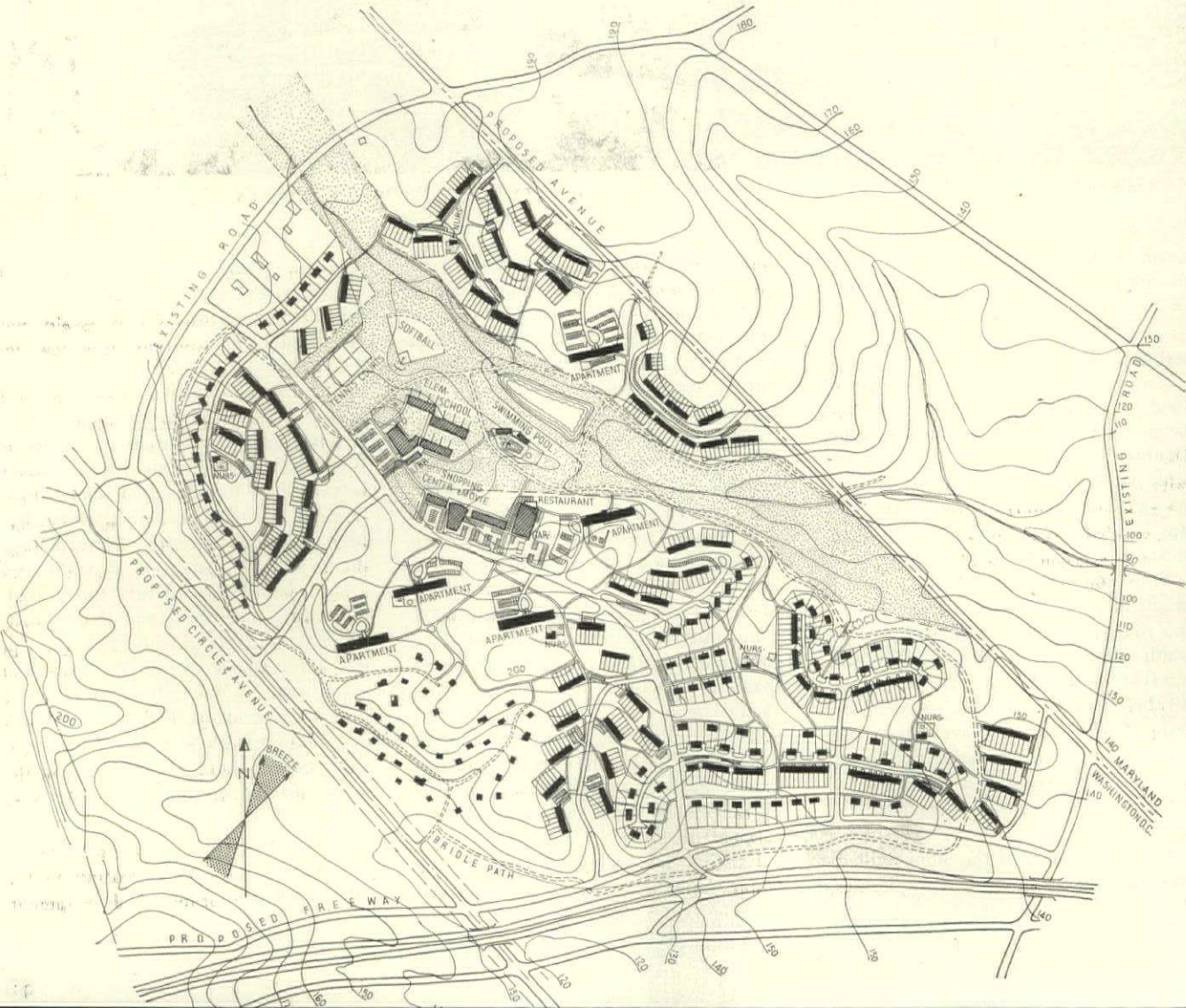
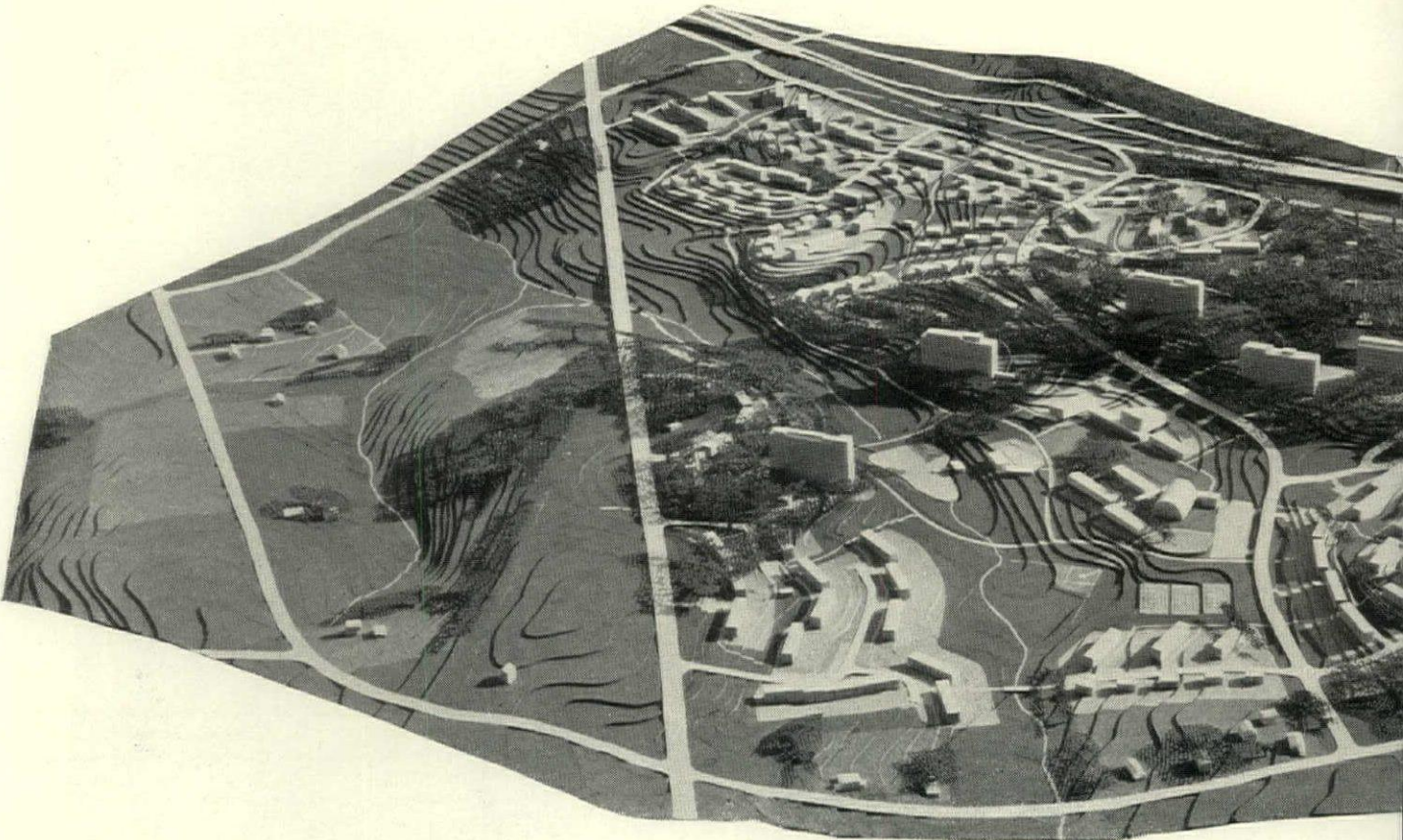
2 Rm.	6,068 cu. ft. @ 50¢	\$3,034
3 Rm.	7,328 " " "	3,664
4 Rm.	7,938 " " "	3,969
4 Rm. (end)	8,548 " " "	4,274

## ANNUAL OPERATING STATEMENT

<b>Income</b>	
Dwelling rent—per annum	\$784,500
Store rent " "	16,200
Other income " "	20,000
<b>Total estimated gross income per annum</b>	<b>820,700</b>
<b>Less vacancies assumed:</b>	
On dwellings	41,035
On other income	3,620
<b>Total vacancy deduction</b>	<b>44,655</b>
<b>Gross income expectancy</b>	<b>776,045</b>
<b>Total operating expense per An.</b>	<b>242,185</b>
<b>Real-estate taxes</b>	<b>77,962</b>
<b>Social security &amp; special taxes</b>	<b>2,080</b>
	<b>322,227</b>
<b>Cash available for debt serv.</b>	<b>453,818</b>
<b>Annual fixed charges:</b>	
Interest—1st yr.—4%	208,000
Amortization @ 2% during 1st yr.	104,000
Mortgage insurance—1/2%	26,000
<b>Total annual fixed charges</b>	<b>338,000</b>
<b>Cash available for income taxes, etc.</b>	<b>\$115,818</b>



APARTMENT BUILDINGS ARE LOCATED IN HEAVILY-WOODED AREAS, DETACHED HOUSES







CONTOUR MODEL OF SITE SHOWS RELATIONSHIP OF VARIOUS TYPES OF HOUSING, GRADES AND EXISTING TREES

north, which will be in shadow much of the time, will be left pretty much in their natural state.

**HOUSES.** Of all house types the row house makes the most intensive use of land with adequate privacy. It has been used as the basic house type. Double houses, providing some units with more land, also are used. They let sun into the north gardens and open up wooded areas or especially good views to a second row of houses.

Sites for detached houses, which might be individually built, are left on the roughest and most thickly wooded south slope, which is ideal for this kind of development. With larger individual lots, this section could be developed with narrow gravel roads, and the character of the landscape would thus be preserved. This would be of value in enhancing the views from the apartments.

For use of each of the sub-neighborhood groups of houses there is pro-

vided (in a green strip) a "block center"—a simple one-room house which could be used for a variety of cooperative activities, such as the neighborhood play groups which have developed during the war, for children's clubs and adult recreation.

Sites for all row and double houses have access to greenstrips, through which pedestrian paths lead to the central open space.

Adjoining the park land, sites are provided for a public elementary school with public library, and a fairly complete commercial center, which in a community of this size would produce considerable income. It is proposed that aside from the usual shops, there should be a restaurant, a commercial swimming pool, and a moving picture house. The theater has been so located that it might be used during the day by the school for the showing of educational films.

Existing houses, along one of the minor boundary streets, are worked

into the scheme. They are on small truck farms which might serve the development. However, it might not be feasible to continue this use indefinitely.

The area across the District line will be separated from the development by a fairly important highway. Since it is in a different jurisdiction, it cannot be served by the proposed school. Furthermore, a good deal of this area has been built up recently. Nevertheless, the topography suggests that the two areas should be closely integrated, especially since the banks of the brook which runs through the park area in the development are to be preserved as a park by the adjoining state. A pedestrian underpass near the brook and another back of the highest apartment house would allow access to the park and playground and community center.

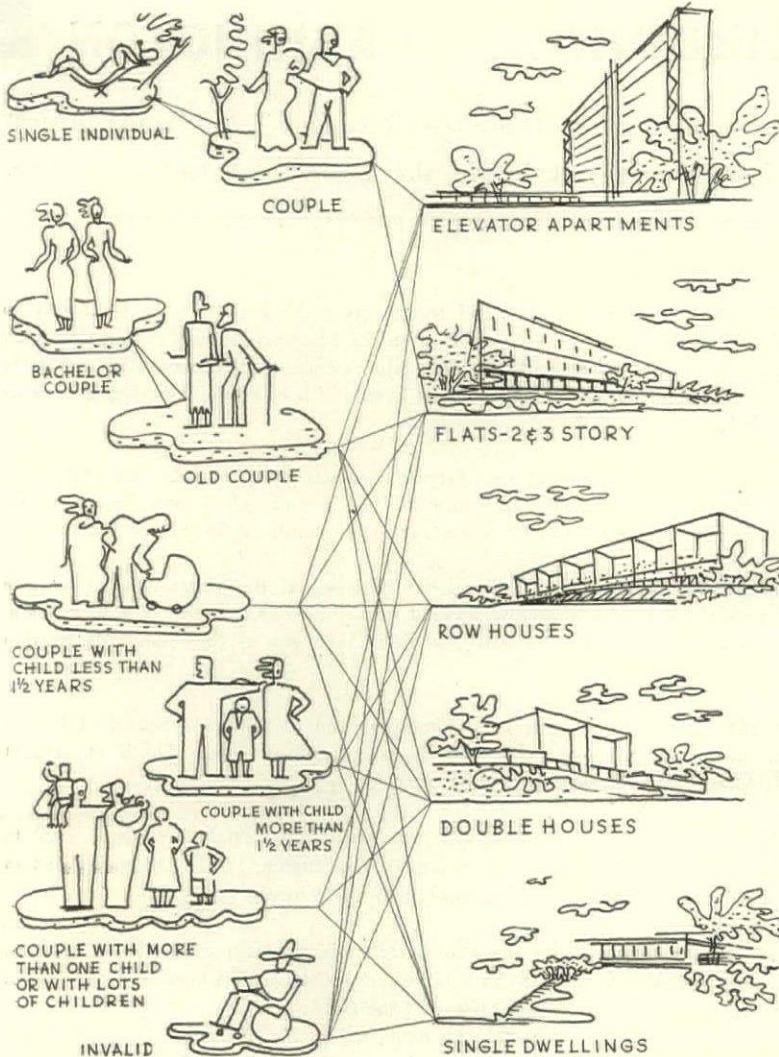
The land still undeveloped might well be built up with relation to the scheme of the proposed development.



# FAMILY NEEDS

# SHELTER ANSWERS

# YES . . . BUT



Fine view—Maximum services—Opportunity for sociability—Most economic use of all kinds of mechanical equipment including air conditioning—Lots of space around building.

Lack of privacy—Getting along with your neighbors—Dependency on elevator: No children wanted—If you want to garden you must go to the community patches.

Access to ground—Little or no stair climbing—Most shelter for your rent—And you may have a private garden or space in the community garden allotted.

Lack of privacy—No good if the neighbor's kids get on your nerves.

Economy in use of land, streets, utilities—Private garden—Your "own four walls and a roof."

Narrow gardens—Difficulty of through access—Closeness to neighbors.

Added exterior openness adds to pretense of privacy—More flexible interior plan.

More land and utilities for the same degree of real privacy—Unsatisfactory if you really "want to be alone."

For the individualist (with plenty of land) peace and quiet.

You've got to pay for it.

part resulted from zoning would also tend to disappear. It seems likely that a variety of family types and personalities, akin to that of a small town, would lend a new vitality to the "neighborhood community," and that this in turn would result in stronger civic consciousness in the city as a whole.

Our project is based on this approach. The site (about 175 acres) is located on the edge of the District of Columbia, and is largely undeveloped. As designed, the neighborhood would accommodate just over 1,000 families. It is about 15 or 20 minutes by car to the business center of Washington, and there are definite plans for improvement of present traffic conditions.

In arriving at the distribution of dwelling types and sizes, the suitability of certain dwelling types for certain types of families was one of the principal considerations. The chart above shows family types, their needs, and the various dwelling types which can satisfy them.

The proposed scheme provides some of the accommodations (but not all possible combinations) suitable to each family type, with the larger proportion for 3- and 4-person families. Apartments in the development have been planned for small families without children, or with very young children who would not be left without supervision. The presence of large numbers of children makes for maintenance difficulties in apartments—especially those with elevators—and detracts from the advantages for many of those to whom apartment living seems most desirable. And for families with children, houses generally are more satisfactory than apartments.

Desirability of orientation for prevailing summer breeze (south) and provision of cross ventilation were factors determining apartment plan and building type. If the best orientation is to be maintained, without undue expenditure per apartment for elevators, an open access gallery seems to

be the solution. This has been used successfully abroad and is worth trying here for small apartments in which the main rooms can face away from the gallery side.

If large enough, the apartment house makes possible centralized services at minimal cost. With more than eight apartments per floor, a second set of elevators would be desirable; but one set could take care of more stories. For this reason, one apartment building has been shown with twelve stories, with the thought that since more services could be provided with lower rents than in similar eight-story buildings, a change in zoning restrictions would be desirable. But the eight-story buildings shown would be financially feasible.

Apartment buildings have been placed where best advantage can be taken of views, and where woods are thickest. The areas to the south would be partly cleared to let in the breeze, and for use by tenants. Areas to the



# MIXED RENTAL NEIGHBORHOOD, WASHINGTON

2

Detached and semi-detached houses, row houses and apartments are combined in a 1,000-family project for Federal workers, set on 175 acres of woodland just inside the District of Columbia line.



JOHANSEN      STONE  
KOCH      GOLDWATER      DEMARS

**VERNON DEMARS** received his A.B. in architecture from the University of California in 1931. From 1937 to 1943 he was Chief Architect on the Pacific coast for the Farm Security Administration in the development of migratory labor camps, rural communities and early phases of the war housing program. He is at present Chief of the Housing Standards Section of NHA.

**CARL KOCH** studied architecture at the Harvard Graduate School of Design (M. Arch. 1937); held the Bacon Traveling Fellowship in 1938-39 and subsequently practiced on his own. He is now Senior Research Technician in the Standards Section of NHA.

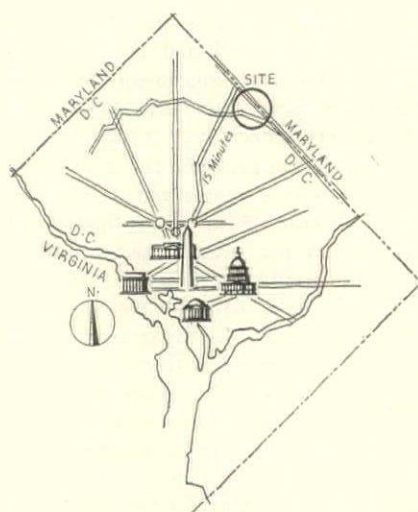
**MARY GOLDWATER** studied architecture and city planning at the Massachusetts Institute of Technology and the Vienna School of Applied Arts. She was formerly in housing management in New York City and is now Associate Architect in the Standards Section of NHA.

**JOHN JOHANSEN** received his degree in architecture from the Harvard School of Design in 1941 and worked on housing projects in Boston and New York. He is at present Assistant Architect in the Standards Section of NHA.

**PAUL STONE** was prominent in building and development in Norfolk, Va., from 1920 to 1930. He has since built more than 1,000 houses in Washington, D. C., and specialized in large scale FHA rental projects totaling more than 1,500 units.

The architects wish to acknowledge the advice, criticism and assistance offered by John Nolan, Jr., and Max Wehrly of the National Capital Park and Planning Commission, Alfred Kastner, Architect, and Samuel Zisman of the NHA.

Though the architects on this team are all employed in the Technical Division of the National Housing Agency, the ideas expressed are their own and do not represent an official statement of the NHA.



## THE PROBLEM

The war has taught us to think big about housing; to evaluate entire communities in terms of accommodations and social resources, and to build complete new towns.

But for all that, much of what we've done has had the earmarks of the pre-war project—its self-consciousness and air of being "different." There is some excuse for this now, because these temporary, artificial communities can afford a degree of physical and social monotony.

But after the War?

Certainly we want to create areas that can be differentiated from the existing confusion. On the other hand, rebuilding the cities after a human pattern cannot be achieved through the imposition of a few set physical schemes, but only through a method that takes into account all the differences between cities, and among the areas within them.

Our attempts at unscrambling our

towns through the negative restraints of height and area zoning, rather than through positive planning, were based on the need to provide for equitable development of small individual lots. The result was a tendency towards uniformity within zoning districts. Under present regulations, for instance, it is not possible as a rule to mix high apartment buildings with single-family dwellings, yet this might be highly desirable. The full use of the possibilities of large scale development requires a new approach to zoning, with regulations based principally on overall density restrictions.

If we stopped arbitrarily considering the inner area of cities as the apartment area, with height and coverage automatically decreasing toward the outer rim, probably more people could have what they want out of city life, for the social variety of the inner city and the amenity of the outer area would both be spread, and the social and economic stratification which in



## SHOPPING CENTER FOR 5,000-FAMILY COMMUNITY

Average income \$2,500 . . . Shopping Money available:  
\$6,340,000

Type of Shops	Size	Percent- age Rent	Annual Rental
3 Markets (2 Self-service 1 Super)	40x100 ea. 60x100	2 % 2 %	\$10,000 ea. 20,000
2 Delicatessens	15x70 ea.	5 %	3,750 ea.
4 Drug stores	25x100 ea.	8 %	7,000 ea.
2 Bakeries	15x70 ea.	7 %	4,200 ea.
2 Bar & grills	25x100 ea.	10 %	5,000 ea.
1 With bowling alleys	25x100		
	Plus 10,000		
Tea room type	40x100	10 %	12,000
Hardware	20x100	8 %	4,000
2 Dry cleaners	15x70	10 %	3,500 ea.
2 Laundries	15x70	10 %	20,000 Total
(Stores & service route)			
3 Stationers	15x60	7.5%	4,000 ea.
1 Florist	18x70	10 %	3,000
2 Beauty parlors	25x70	10 %	6,000 ea.
2 Barber shops	15x70	10 %	3,000 ea.
1 Women's wear	25x100	7 %	5,250
1 Haberdasher	25x100	8 %	6,000
1 Children's wear	20x100	6 %	6,000
1 Candy store	12x50	10 %	3,000
1 Theater—1,200 seats		15 %	30,000
1 Bank	25x100	½% on deposits	8,000
2 Liquor stores	15x100	6 %	3,000 ea.
1 Variety store	50x100	6 %	9,000
Telephone Co.	15x50		1,200
Western Union	15x50		1,200
Post office	25x100		2,500

### SECOND FLOOR—OFFICE SPACE

Type of tenant	Space	Annual Rental
4 Doctors' offices	375 sq. ft. ea. plus 500 ft. waiting room	\$4,000 Total
3 Dentists' offices	400 sq. ft. ea. plus 500 ft. waiting room (Total space 3,000 sq. ft.)	3,400 Total
2 Insurance agencies	2,500 sq. ft. ea.	5,000 ea.
Window cleaning & maid service	1,500 sq. ft.	3,000
General offices for lawyers, auditors, etc.	1,500 sq. ft.	3,000
Administration office	6,000 sq. ft.	

About 20,000 persons—say 6,000 families—can nicely support one moving-picture theater of 1,500 to 1,600 seats, and with somewhat less than double that number of population a second theater of approximately the same size would be successful. Experience shows that two theaters stimulate business beyond ordinary needs rather than dividing it. They create the feeling that there is a theater and amusement center, and undoubtedly attract much more business from outside the community. A valuable additional attraction, and one which pays well, is a bowling alley. This may be run advantageously in connection with the grill-room type of restaurant. Unless land is very cheap and climate particularly favorable, an outdoor swimming pool is not an economic community asset, nor is a skating rink.

The planned shopping center, whatever its size, offers merchants the greatest possible security against cutthroat competition, fire-sale failure, and a change of business "to the other side of the street" or "over on Elm—the coming section of town."

## SHOPPING CENTER FOR 10,000-FAMILY COMMUNITY

Average income \$2,500 . . . Shopping Money available:  
\$12,680,000

Type of Shops	Size	Percent- age Rent	Annual Rental
6 Markets	3—6,000 sq. ft. 3—4,000 sq. ft.	2 %	\$80,000 Total
6 Drug Stores	5—25x100 ft. 1—40x100 ft.	7 %	56,000 "
6 Stationers	15x100 ft.	7.5%	26,000 "
4 Delicatessens	20x100 ft.	5 %	15,000 "
4 Bakeries	15x70 ft.	7 %	17,000 "
4 Dry Cleaners	15x70 ft.	10 %	14,000 "
4 Laundries	15x70 ft.	10 %	40,000 "
2 Candy stores	15x50 ft.	10 %	6,000 "
Bowling alley (30 alleys combined with bar & grill)	25x100 ft.	8 %	20,000 "
Cafeteria	15,000 sq. ft. plus basement 5,000 sq. ft.	7 %	14,000
2 Bars & grills	25x100	10 %	10,000 Total
1 Tea room type	40x100	10 %	10,000
2 Houseware stores	20x100	8 %	18,000 Total
1 Department store	60,000 sq. ft.	3 %	45,000
1 Variety store	100x100	6 %	18,000
2 Women's wear	30x100 ea.	6 %	24,000 Total
2 Women's shoes	25x100 ea.	6 %	17,500 "
1 Men's shoes	25x100	6 %	4,500
1 Women's & children's shoes	25x100	7 %	5,000
1 Children's clothes	30x100	7 %	14,000
1 Men's furnishings	25x100	8 %	10,000
1 Men's clothing	40x100 & bst.	6 %	18,000
1 Sporting goods store	25x100	7 %	10,500
4 Beauty parlors	25x100 ea.	10 %	25,000 Total
3 Barber shops	15x70	10 %	12,000 "
2 Florists	20x70	10 %	6,000 "
2 Banks	30x100 ea.	½%	20,000 "
2 Theaters—1,200 seats ea.		15%	60,000 "
3 Liquor stores	20x100	6 %	12,000 "
3 Auto agencies	2,500 sq. ft. ea.	4 %	18,000 "
1 Post office	50x70	None	4,500
1 Singer sewing machine	25x100	"	2,500
1 Optometrist	15x70	10 %	2,400
1 Western Union	15x50	None	1,200
1 Telephone Office	15x50	"	1,200
1 Public library	3,000 sq. ft.	"	1,200

### SECOND FLOOR—OFFICE SPACE

Type of tenant	Space	Annual Rental
10 Doctors' offices	375-400 sq. ft. ea. }	\$22,000 Total
6 Dentists' offices	Total 11,000 sq. ft.	
Dancing & Music School	2,500 sq. ft.	3,750
2 Insurance agencies	3,000 sq. ft. ea.	12,000 Total
Window cleaning & maid service	2,500 sq. ft.	5,000
General offices for lawyers, auditors, etc.	2,500 sq. ft.	5,000
Administration office	10,000 sq. ft.	

This great advantage of security will always attract the best merchants—consequently the population is well served in a way which adds to the comfort of living. Certainly people take a pride in their town: not only in their own homes, but in their community center. For the shopping center symbolizes the life of the town. It lends color and character to community living. Planning it right is a worthwhile endeavor that pays dividends in stabilized values.





## SHOPPING CENTERS FOR SMALL COMMUNITIES

50 to 2,500 families . . . Average income \$2,500

Number of Families	Shopping Money Available	Type of Shops	Sizes	Percentage Rent	Annual Rental
50	\$55,900	1 General market	35x100	4 %	\$1,200
250	279,500	Market	40x100	3 %	3,350
		Drug store	30x100	8 %	1,800
		Bar & grill	25x100	10 %	1,500
500	634,000	Market	40x100	3 %	7,500
		Drug store	30x100	8 %	3,500
		Stationer	14x60	7.5%	2,500
		Bar & grill	25x100	10 %	3,000
		Dry cleaner	12x50	10 %	750
		Laundry	12x75	10 %	2,000
1,000	1,268,000	Market	50x100	3 %	13,500
		Drug store	30x100	8 %	6,500
		Stationer	14x60	7.5%	2,700
		Bar & grill	25x100	10 %	3,500
		Delicatessen	15x70	5 %	1,750
		Bakery	15x70	7 %	1,750
		Beauty parlor	15x100	10 %	2,500
		Dry Cleaner	15x60	10 %	1,500
		Laundry	15x75	10 %	3,500
2,500	3,170,000	2 Markets (self-service)	40x100 ea.	2 %	20,000 Total
		2 Drug stores	25x100 ea.	8 %	16,000 "
		2 Stationers	12x50 ea.	7.5%	6,400 "
		1 Restaurant (Tea room type)	30x100	10 %	9,000
		1 Delicatessen	15x100	5 %	3,750
		1 Bakery	15x70	7 %	4,200
		1 Beauty parlor	25x100	10 %	6,000
		1 Dry cleaners	15x60	10 %	3,500
		2 Laundries	15x75	10 %	5,000 ea.
		Hardware	15x70	8 %	2,000
		Florist	12x50	10 %	1,500
		Bowling alley (8 alleys combined with bar & grill)		10 %	1,500
		Barber shop	15x70	12 %	3,500
		Liquor store	15x70	6 %	3,000

**PLANNED** shopping center at River Oaks, Houston, Texas, Hugh Potter's famed pre-war planned neighborhood. Semi-circular layout provides off-street access to all stores, with plenty of parking space at the back as well as the front of the shops.

*The following information has been furnished by Hugh Potter, president of the Urban Land Institute:*

In setting up neighborhood shop frontage, a conservative ratio is 1 front ft. for every 50 people. Some developers go as high as 5 front feet.

Population within trading range, but outside the development, should be considered. River Oaks, for instance, has 5,000 population but a shop frontage sufficient for 20,000.

There should be 2 sq. ft. of parking for every square foot of shop area. This is a minimum—3 sq. ft. would be preferable.

Mr. Potter considers a combination of front and rear off-street parking most workable at the present time.

In large rental developments the stores may be opened at once. Where homes are built for sale, however, it may be years before the center reaches its full size. Land *must* be reserved at the very beginning, and on very large sites—say 1,000 acres—the developer would be wise to set aside two or three possible sites as insurance against unforeseen shifts in traffic, population, etc.

When it is impossible to build good, permanent buildings at once, the developer should put up temporary structures, identify them as such, and display renderings of the future center. It is vitally important to get people into the habit of using the shopping center from the very beginning.



# NEIGHBORHOOD SHOPPING CENTERS

Robert W. Dowling, who planned the stores for the Metropolitan Life Insurance Co.'s 12,273-unit Parkchester development, schedules the shopping requirements of average residential communities

Kaiden-Keystone



**ROBERT W. DOWLING** who has had long experience in the planning, leasing and management of store properties is a member of the Parkchester Board of Design. He is president of the City Investing Co., vice president of Starrett Brothers & Eken, Inc. and chairman, real estate committee, Emigrant Industrial Savings Bank. He is now engaged as one of the committee on plans for Stuyvesant Town.

As only about one-fifth of family income should be spent for rent and one-half for food, clothes and household needs, it can be seen how important are the shops in community planning. The merchandise services which are offered must be of sufficient variety, attractive in presentation and properly priced. The shops must function physically so as to provide economy of time and pleasing conditions for shopping. Good merchants must be attracted by a protected public purchasing power, proper room to merchandise, and the promise of favorable economic results.

With the development of large scale, planned neighborhoods, the provision of shopping facilities to serve the residential community can no longer be left to hit or miss speculative development. If the plan is to mean anything at all, it must provide shopping centers and subcenters of approximately the correct size and dispersion, equipped with store buildings of the correct general type. Fortunately for the developer, the provision of these facilities is not only a responsibility, but can also be made an important secondary source of income.

In the accompanying chart I have tried, in a general way, to approximate the type of shops and the number needed to supply the needs of communities of various sizes. Of course, the needs will vary according to the location of the community—whether in the northern or southern part of the country and whether the community is housed in one-family houses, row houses, or in multi-floor apartment houses.

First in importance are the food shops. About 40 per cent of available funds are spent on foods, so an attractive market is the store that is the "must" basis for all communities—regardless of population size.

As shown on the chart, a community of as small as 50 families can support a general store of quality which will give adequate service, pay a fair rental and still be profitable to its operator. The general needs of families multiply as the size of the communities increases. This makes possible increasing kinds of shops with increasing population. When we reach a family population of 500 we are able to provide all of the primary stores—a market, drug store, saloon, beauty parlor, stationer, laundry, cleaner and dyer and valet service. As yet no specialty stores can be supported.

When we have a larger town, a population of say 2,500 families, we can double the primary stores so as to give the very important element of competition. Shoppers like to shop. They want an opportunity for comparing, selecting and choosing brands, of dealing in a "Red" or "Blue" store according to their tastes. There is nothing like having two markets, two drug stores, to stimulate business.

As the planned community increases in size we must bear in mind two factors: first, how much potential business will be lost by reason of outside shopping facilities; and second, how much business will be attracted from outside sources by the planned shopping center. People generally will not walk more than two blocks for their ordinary shopping needs when they have reasonable services near their homes. On the other hand, in suburban communities in normal times people like to shop in larger centers where there is more variety offered, so long as the distance does not exceed three or four miles.

Inversely, the offensive effort to attract shoppers is not effective until the planned community has reached a size where its shops can offer a variety of merchandise and where there are theaters and other recreational facilities.

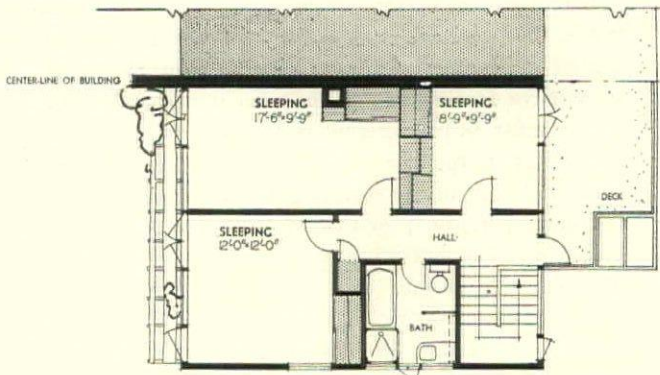
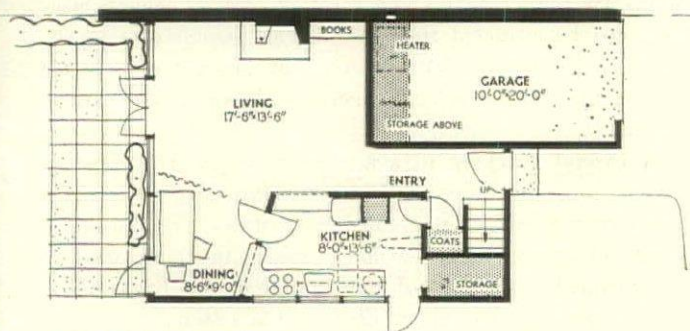
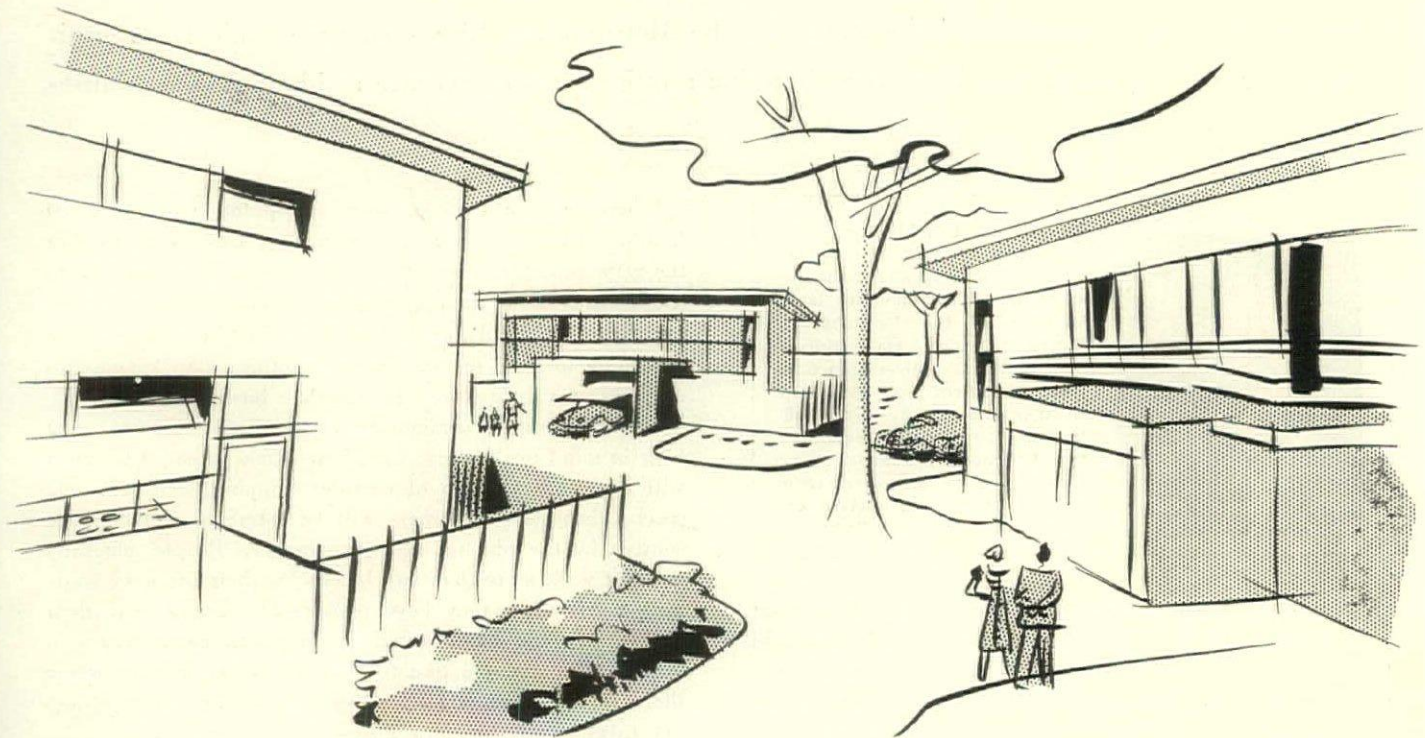
The shop chart indicates that while a certain amount of money spent for clothing, radios and furniture will undoubtedly be lost to community merchants through big city shops, mail order houses and vacation centers, enough business can be attracted from neighboring populations to offset this. In fact, the latter source may produce even better results for local merchants than are shown in the various charts.

A careful checking of available stores in most Eastern cities shows that even in the most flourishing times cities are tremendously over-supplied with stores. For instance, a city of approximately 40,000 persons (the population of the planned community of Parkchester in the Bronx, New York) generally has about 1,000 to 1,200 stores. Actually, more than half these stores shouldn't be in business. They are non-profit operations which are constantly failing. Twenty-five per cent more are so-called marginal operations. There is no need for more than a fourth to a fifth of the stores usually found in non-planned "Topsy" cities which "just grew."

One of the largest planned communities in the world is Parkchester. There the plan calls for four regional shopping centers, each so geographically placed as to take care of the needs of about 10,000 persons. One of these regional shopping centers is encompassed in the main shopping area which also includes general clothing stores, department store, restaurants and theaters. The main shopping center should have a department store, specialty stores for women's clothes, specialty stores for men's clothes and children's clothes. There ought to be at least three restaurants—one of the cafeteria type, one of the tea-room variety, and one of the grill-room type.

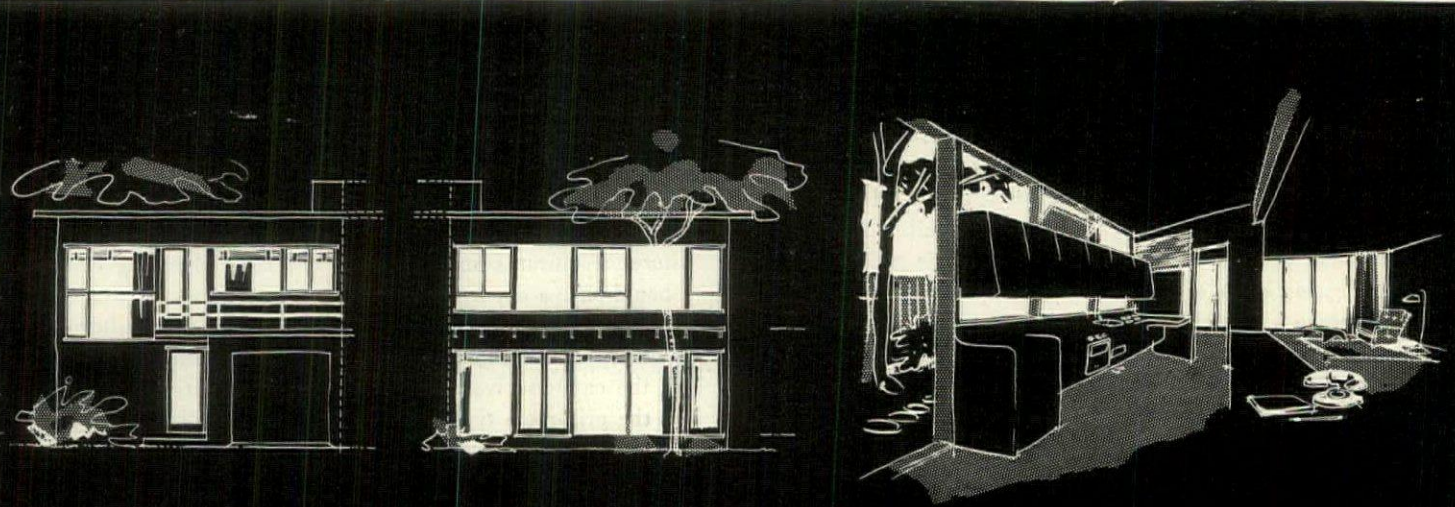
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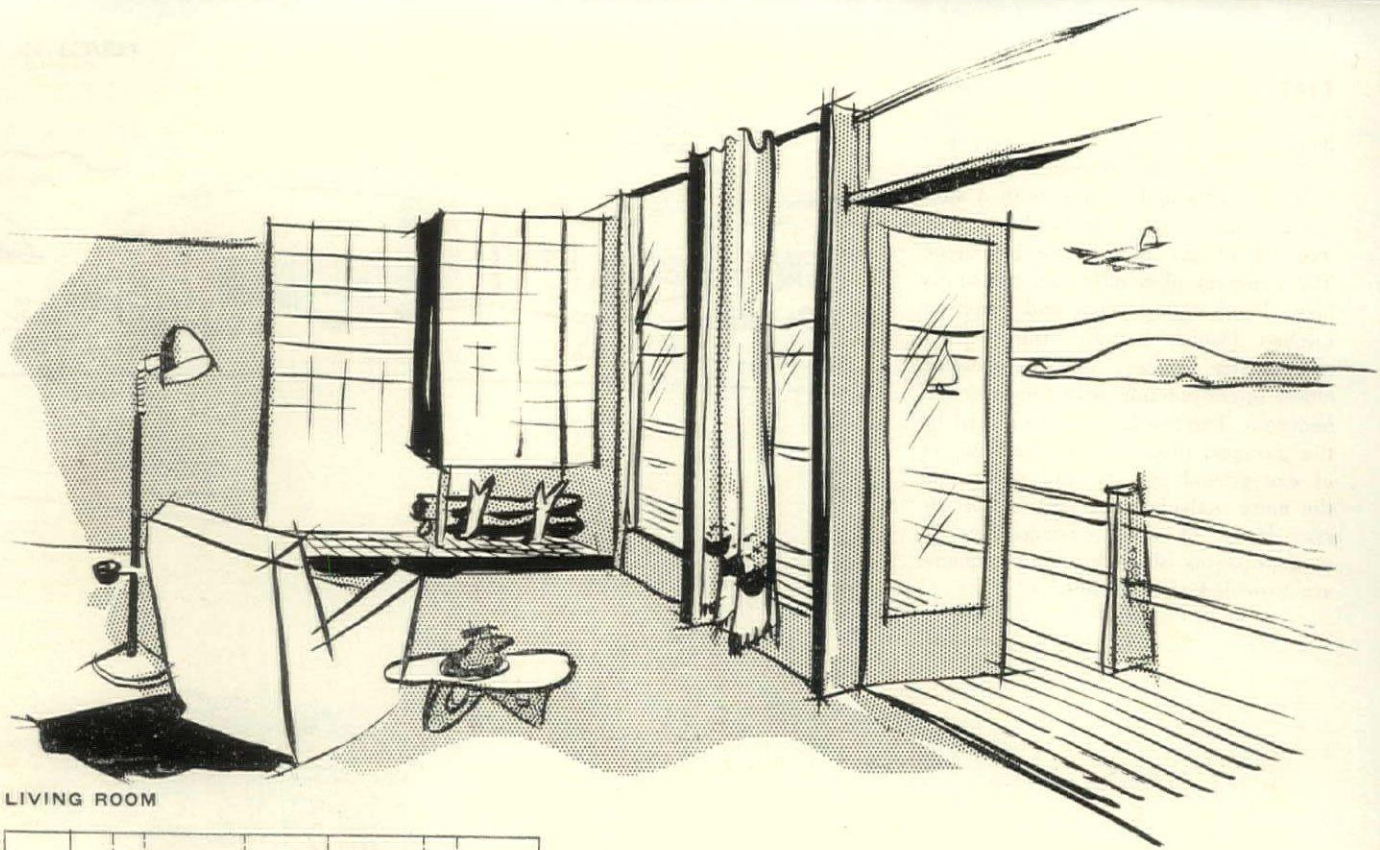


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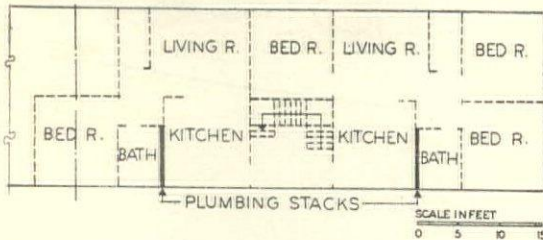
TWO-STORY SEMI-DETACHED HOUSES HAVE NEW FOUNDATIONS, GROUPED INFORMALLY TO INCREASE PROJECT VARIETY



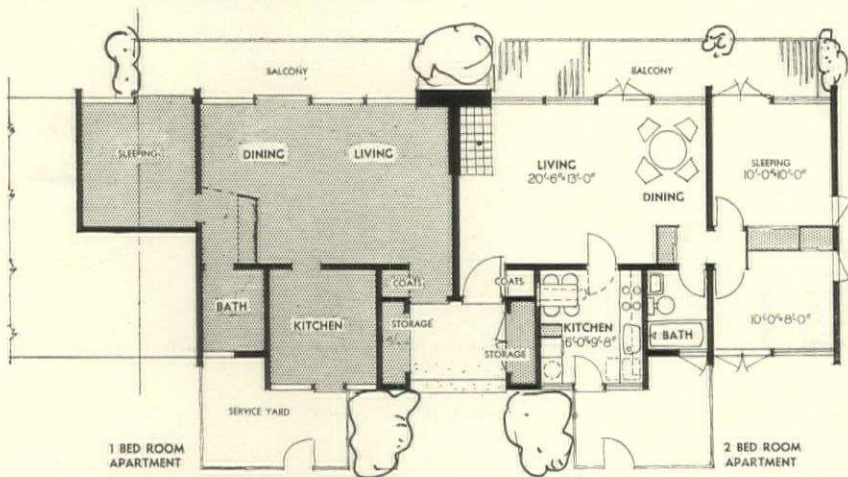




LIVING ROOM



PLAN OF EXISTING TEMPORARY UNIT



**TYPE B** is a one-story, four-family apartment building having two apartments with one bedroom each and two apartments with two bedrooms. It was designed to be built on the floor slabs of existing TDU buildings located on sloping sites with one side of the floor above grade, and has a balcony along this side. Location of plumbing stacks in existing units is unchanged.

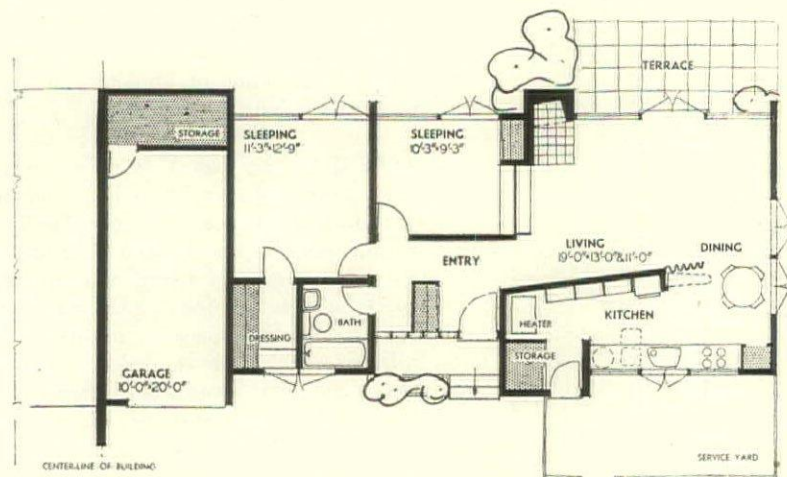
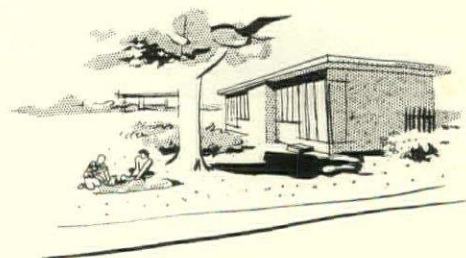
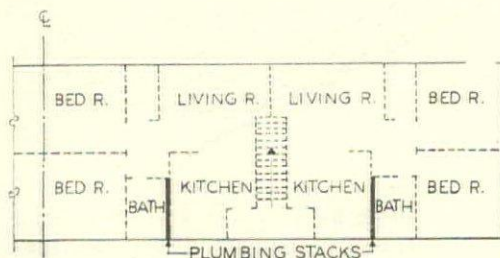
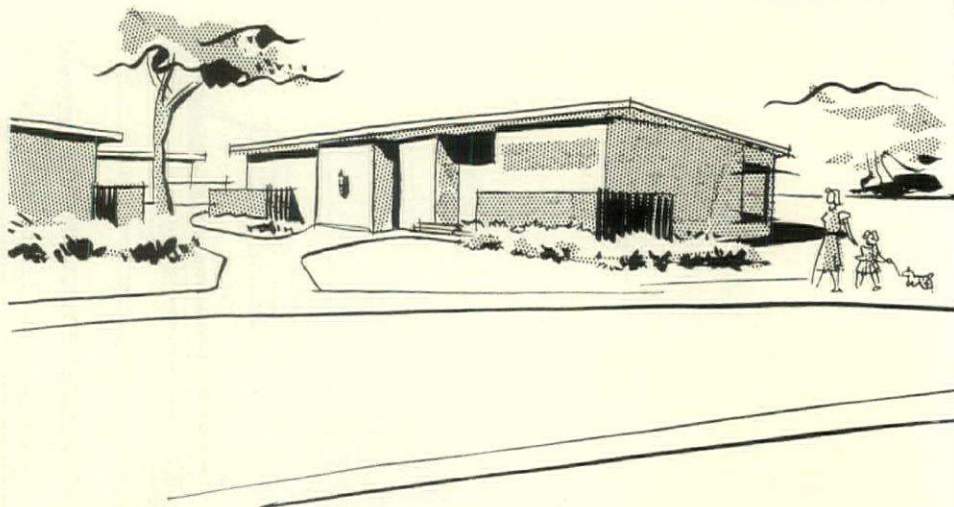
**TYPE C** (facing page) is an entirely new, two-story semi-detached house providing three bedrooms per family. Living quarters on the first floor consist of a combined living and dining space, and a kitchen which may be opened into this space by means of a rolling screen above table height, thus giving the housewife a chance to take part in conversations while preparing meals. The second floor has ample bedrooms, a large bathroom and a sun deck over the built-in garage.

FOUR-FAMILY APARTMENT BUILDINGS ARE LOCATED A FLOOR ABOVE THE STREET, GET THE BEST VIEWS OF THE BAY

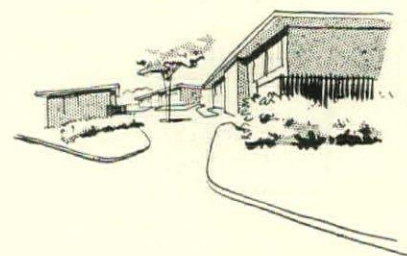




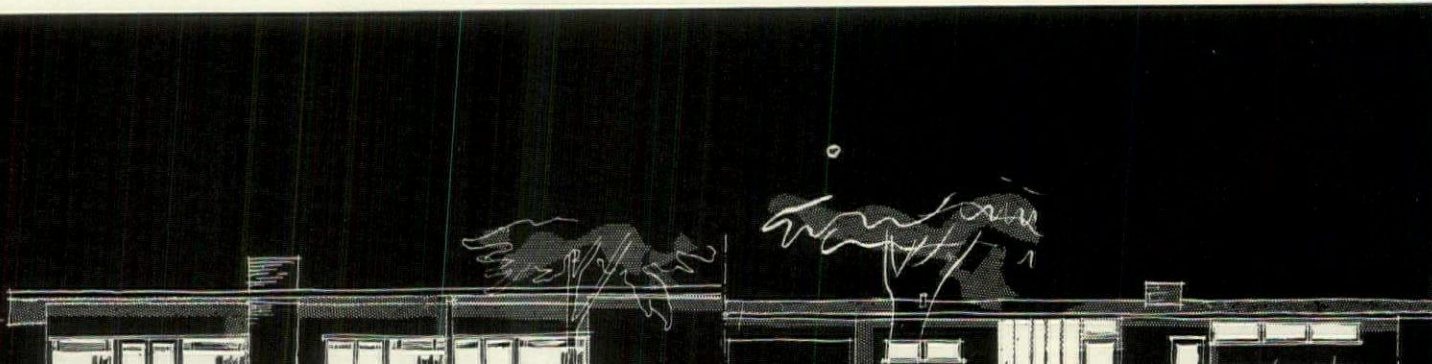
**TYPE A** is a single-story, semi-detached unit built on the existing floor slab of one of the temporary war housing units and intended for sale. It has an attached garage, with a storage and utility space at the back, and, like all of the houses, no basement. The compact plan offers an unusually large living-dining room and generous kitchen (which includes the laundry and heater space), and a dressing closet in conjunction with the principal bedroom. The two houses are joined by the garages, providing a sound-barrier of exceptional quality and separating the more actively used portions of the rear lawns by 20 ft. Fenced service yards, opening off each of the kitchens, are provided at the front.



SCALE: 1/16" = 1' - 0"



SINGLE-STORY, SEMI-DETACHED UNITS OCCUPY FLOOR SLAB OF EXISTING 8-FAMILY, TWO-STORY DEMOUNTABLE HOUSES





could not be incorporated into the emergency project because it had not had sufficient time to settle. It is a desirable location and is used for house plots in the converted development. The conversion plan also calls for the use of the existing management and community building as a community meeting place and as a block of shops for the convenience of the residents. A sufficient area adjacent to this facility has been allocated for park and recreational areas.

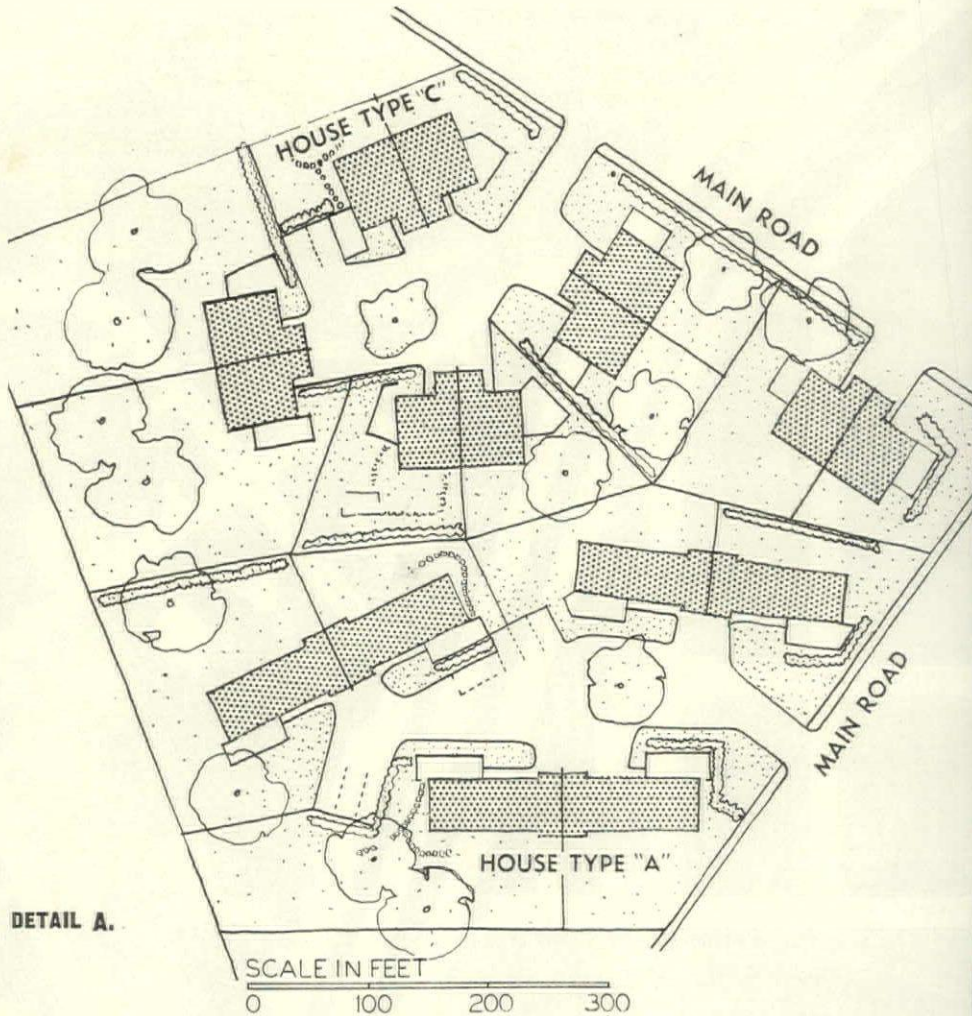
### COURTS

The general layout is based on the use of entrance courts to give access to the houses. Due to the wide spacing of the streets this was a matter of necessity; however, we believe that the court scheme has many advantages. Traffic is removed from the houses. Children will play on hard-surfaced areas, and this arrangement—while far from ideal—is better than their playing in the streets since traffic is slower and mothers do have supervision and control. We plan that the identity of the various courts should be built up by color variation in the materials and design of the pavements and the houses. The principal appeal of the whole scheme would be the quietness and neighborhood quality of these *cul-de-sac* courts.

### ESTIMATED COST

We have not attempted to set sales prices or rentals, since this will vary depending upon the method of financing used and rates of interest and amortization. The type of financing best suited to the individual units will depend upon the personal requirements of the purchaser. The groups of rental units can be financed by typical housing-project methods, such as the FHA 20 per cent mortgage. We have deferred selecting the exact financing scheme until the project is actually built, in the belief that lower interest rates and longer periods of amortization can be expected because of the satisfactory experience record of the insured mortgage. This will materially reduce monthly carrying charges and rentals, thus reaching a lower income bracket. The lower development and construction costs, resulting from the conversion of existing facilities (an indicated saving of \$374 per unit) will also make possible lower sales prices and rentals than would have been possible in an entirely new development.

To be added to the costs given in the estimate are architects' and engineers' fees, contractor's and developer's profits, advertising and sales costs. It is difficult to estimate these costs since they will be affected by market conditions and vary widely.



DETAIL A.

### SITE CONVERSION DATA

Present density	22 units per acre
Converted plan	6.5 units per acre
Improvement cost of typical re-developed block, contemplating use of existing floor slabs:	
Pavement, utilities, landscaping	\$3,557
Per unit	222
Land cost per unit	309

Total	\$531
Improvement cost of typical block developed in the conventional fashion within the framework of the existing project street pattern, utilizing existing pavement, utilities, landscaping, etc.	
	\$2,000
Cost per unit	125
Land cost per unit	309
Total	\$434

### BUILDING UNIT CONSTRUCTION COST

<b>Type A—1-story duplex</b>	
Living area per unit—966 sq. ft.	\$4,597.00
Garage area per unit—286 sq. ft.	357.00
	\$4,954.50
Less cost of foundation slab and rough plumbing	519.93
	\$4,434.57
<b>Type B—1-story 4-family building</b>	
2-bedroom family unit:	
Living area per unit—712 sq. ft.	\$3,379.00
Less cost of foundation slab and rough plumbing	359.80
	\$3,019.20

Average saving per unit by using existing slab, where feasible	\$195
Saving of conversion plan over conventional subdivision pattern where new streets would be installed	\$250
Total saving	\$374

The difference of \$97 per unit in favor of the conventional plan is due to the necessity of paving the driveway and necessary parking area off street and within the site. The conventional pattern, with the additional and wider street paving that would have been required, would not have required the on-site pavement costs. We find a saving of \$195 per unit will be made by utilizing the existing slabs, where feasible.

<b>Type B</b>	
1-bedroom family unit:	
Living area per unit—601 sq. ft.	\$2,879.50
Less cost of foundation slab and rough plumbing	330.15
	\$2,549.35

<b>Type C—2-story duplex</b>	
Living area per unit—1,255 sq. ft.	\$5,647.50
Garage area per unit—215 sq. ft.	538.12
Terrace	27.60
	\$6,213.22





**CONVERTED SITE PLAN** is based on use of the floor slabs and plumbing connections of the existing demountable units as foundations for new single-story, semi-detached houses with garages (Type A), and also for one-story, four-family rental units with detached garages (Type B). These units provide one and two bedrooms per family. Three bedroom houses (Type C) are entirely new, since the plan called for a foundation of different dimensions, and are two stories high and semi-detached. Types A and C, which are intended for sale, are set on the flatter portions of the site where access to the garages is easy. The Type B units, planned for rental use, are located on the slopes with garages grouped along the street. Units requiring new foundations (Type C only) have been grouped to increase the variations in the height and form of the buildings throughout the neighborhood, in an effort to relieve the rigidity of the present layout. Only minor changes in branch sewer lines are required to service these units.



in or near the houses, accessible from the streets, to relieve the mass scale of the present development by establishing small group entities, to offer a variety of accommodations, and to provide separate properties for individual ownership.

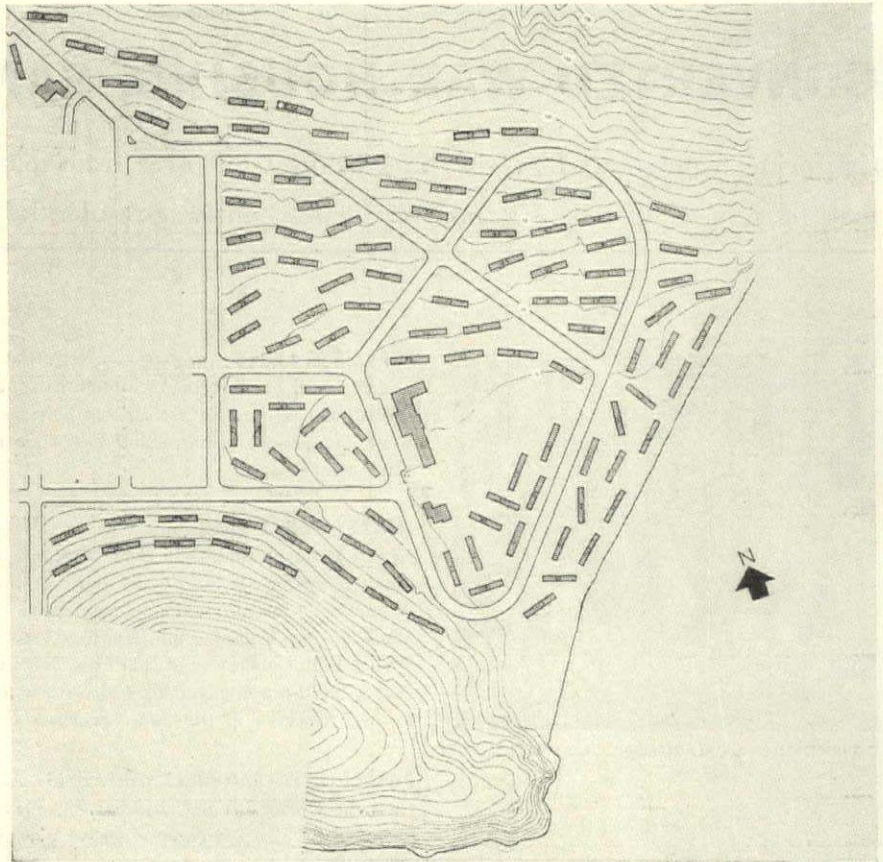
The conditions of the project taken for trial are typical: it serves an industrial area which will continue operations after the war, it conforms to WPB and FPHA wartime regulations for density and services, the utilities system was installed specially to serve the pattern of the temporary project, the topography varies from flat ground to steeply-sloping hillsides, the government acquired possession for war-time use by leasehold. Its use as residential property is confirmed by the San Francisco Master Plan, now being studied, which shows new residential areas in this locality. A special factor in the planning was a proposed "freeway," which will extend across one side of the site, dividing it into two parts, when postwar plans are carried out.

The war housing project consists of standard buildings housing eight families each, at a density of approximately 22 families per acre. Parking is provided only along the street curbs. All buildings are two story, 21 ft. wide, and the largest, 114 ft. long. Those on the flat land are arranged around loose courts; those on the slopes follow the contours in their long dimension. Two Child's Service Centers, a community building, a large playfield and scattered play areas are provided for community use.

We assume that the terms of the lease with the land owner require that the land be returned to him at the expiration of the lease in approximately its original condition. It is, of course, not feasible to do this without considerable expense for the demolition of the concrete slabs, roads and utility installations. On this premise we have assumed that only the temporary buildings will be removed, and that floor slabs and plumbing outlets, as well as streets and utilities, will be left in as good condition as possible. We have further assumed that arrangements can be made to leave the existing community buildings standing.

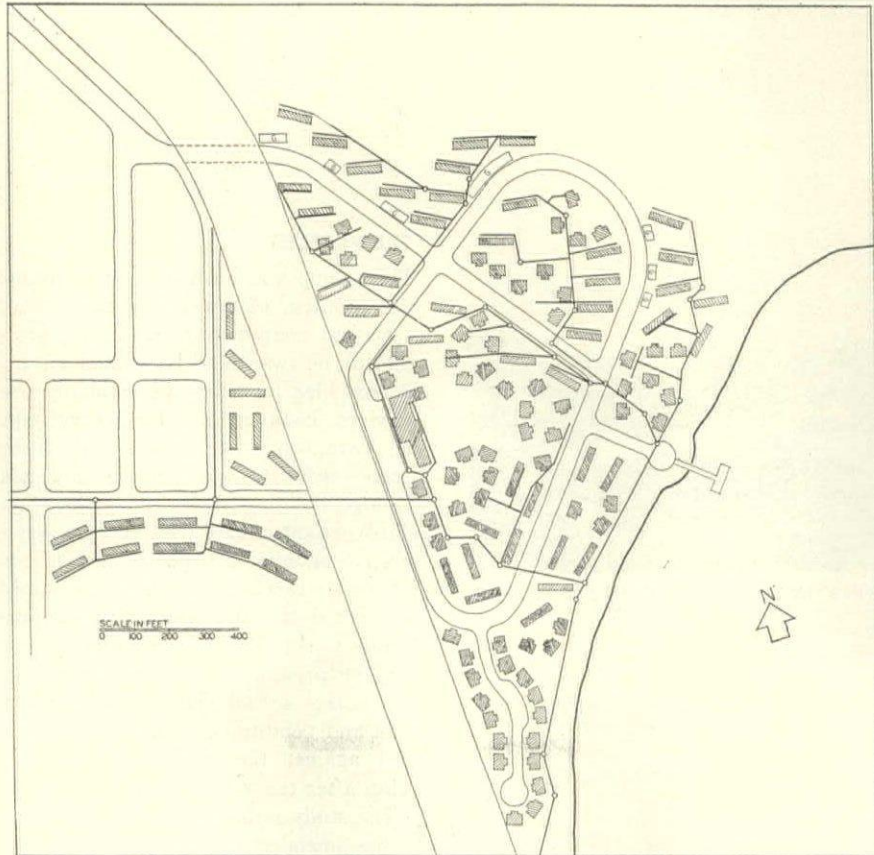
#### CONVERSION OF SITE

Economy dictated that the war housing project should have but few, widely-spaced streets (the largest block is equivalent to a 650 ft. square), with walks and entrance courts serving the building sites. Adjoining block measure 250 x 350 ft., less than one-quarter the area of the largest block in the project. A portion of the site was used as a pit for surplus dirt, and was leveled but



TEMPORARY WAR HOUSING PROJECT USED AS SITE OF NEW COMMUNITY

EXISTING SEWER SYSTEM IS EMPLOYED WITH MINOR MODIFICATIONS





# CONVERTED WAR HOUSING, SAN FRANCISCO

California team shows how sites and utilities left over from temporary emergency housing projects may be re-used to create attractive, livable, postwar residential communities.

Gabriel Moulin Studios



CAMPBELL, BOHANNON, CLARK, LLOYD

**FRANCIS E. LLOYD** was born in Nebraska, studied engineering at the University of Idaho and received his B.S. in Architecture from the University of Pennsylvania in 1922. Subsequently he worked in architectural offices in New York and San Francisco. In 1932 he went into private practice and has since received awards in several nation-wide architectural competitions.

**HERVEY PARKE CLARK** was born in Michigan and graduated from Yale and the University of Pennsylvania, School of Architecture. He was responsible for the design of one of the first modern houses to be built in the San Francisco region as well as many other commercial, institutional and residential buildings. In 1942 he was vice president of the San Francisco Planning and Housing Association and is at present chairman of the Citizen's Master Plan Committee of that city. Since the war Hervey Clark, associated with Francis E. Lloyd, has been engaged by the Government on a number of large scale housing projects for war workers in the San Francisco Bay region.

**RONALD LYNN CAMPBELL** received his A.B. in Architecture and M.A. in City Planning from the University of California. As planning consultant for various California cities and counties, he directed comprehensive planning programs. He has since prepared numerous development plans for such projects as "Hillsdale" and "Rollingwood" built by David D. Bohannon and served as consultant on parkway and highway design projects.

**DAVID D. BOHANNON**, Junior Vice President of the National Association of Home Builders, has been well known as a land developer and builder since 1925. Since the war, as a member of the construction firm of Bohannon & Chamberlain, he has been responsible for defense housing projects totaling more than 2,100 units.

## THE PROBLEM

This group was rash enough to attack the problem of converting the site of a typical temporary war housing project for postwar use. It seemed an excellent idea to utilize permanently the services installed for temporary use. To recapture the expense of these items—sewers, water supply and gas piping, building sites and foundation slabs—might make possible the open space, community facilities and larger lot sizes everybody wants. This study is offered as an exploration—a preliminary sketch—of a problem which may be presented to many cities and, we hope, solved successfully when time and conditions permit testing our idea against the conditions that develop after the war is won.

The study is based on the provisions of the amended Lanham Act requiring

that temporary public housing shall be removed after the emergency. We have assumed that the temporary structures (TDO eight-family units) will be razed by the government and the property turned over to the owner with the underground services, streets, building foundations and concrete floor slabs intact. For our purpose, we assumed that these should remain unchanged in major part. This limitation is strict. To be proved or disproved is the question of whether it can be met, and at the same time a neighborhood pattern which meets the requirements of good living established.

Our design problem was to keep to the pattern established by the existing streets, services and floor slabs, to lower the overall density by nearly four times, to provide private garages



EXISTING WAR HOUSING PROJECT



restrictions all help to achieve this. But planning which provides an identity to the section by the patterning of streets, the design of buildings and the provisions of the recreational areas, the church, and the other facilities that its people want, can do as much or more. Nothing after all can protect a neighborhood but the will of the people living in it (or, in a rented area, the will of the management interpreting tenants' preferences). Planning must seek to build up and support that will by providing something people will work together to protect.

#### **WHERE SHALL THE NEIGHBORHOOD BE PUT?**

In selecting districts for new housing, we are unfortunately bound by a pattern of land prices frequently at variance with our current objectives. So long as land in vast areas of our cities is priced and taxed on the basis of an assumed commercial and industrial expansion that is no longer tenable, or of a density of occupancy no longer desired as a general pattern, the choice of land for many needed types of development will be restricted.

Under the conditions existing in our larger cities, close-in areas, if they are developed or redeveloped at all, will usually have their density and consequently the type of structure and choice of occupants dictated by the price of land. In New York City, the most aggravated case, the benefits of state and federal subsidies for public projects are not sufficient in some cases to prevent densities reaching as high or higher than 100 families per acre. To provide for moderate income families, even in apartments with similar high densities, it is necessary either to go to outlying sections or to receive some mitigation in the form of tax limitation. To reach detached house neighborhoods an arduous commuting is entailed and, the lower the house price, usually the more arduous the commuting.

In face of these facts—so long as they prevail—both the planner and the developer of neighborhoods are helpless to do anything but to go increasingly farther from the metropolitan core. Ideal—or even reasonably convenient—relationships between the development and sources of employment, recreational facilities, shopping, schools, and so forth must often be either sacrificed or seriously jeopardized.

Fortunately for the developer, though perhaps not so from the point of view of the city as a whole, industry and retail trade have participated in the outward movement. As a result, we have in many outlying areas a limited but nevertheless important opportunity for plan coordination before chaos itself is expanded, and for the creation of neighborhoods which can achieve the stabilization that comes from a convenient relationship with the employment, trade, and recreation facilities of the larger community.

In order to restore the balance between the close-in and outlying sections of the city, the task—and a long task it probably will be—of adjusting land prices to present day use values must be faced. The urban redevelopment laws recently enacted in a number of states are evidence of a growing conviction that something ought to be done, but for the most part these laws either dodge outright or conceal in tax concessions and other devices the basic issue—the land price at which economically sound development can take place.

The concept of our orderly urban development and redevelopment carries beyond the kind of land planning that the private operator, however great his resources or good

his intentions, can do alone. Private developers know by this time that they do not work in a vacuum, that what one does affects and is affected by what is done by others, and that hardly a move can be made in any part of the urban complex without having some bearing on each separate operator's prospects.

#### **HOW SHALL WE GET WHAT WE WANT?**

The task of correlating private effort, of directing the broad changes in the city structure, and of creating a framework, both physical and legal, within which private effort can be carried on to the advantage both of itself and the public is one for the official planning agency. It can be accomplished through no other means. The main features of this public task are easily described and I believe will be readily agreed on.

First is the setting of the pattern of main streets, highways, and railways, which serve at once to bind the city together and to separate it into development areas, or neighborhoods. Second is the determination of the uses to which the land in each of these areas is to be put—the main industrial and commercial sections, the subsidiary commercial locations needed for residential districts, and the designation of those residential districts and subdistricts by type and class of housing (with suitable regulations covering the land coverage and density of each). Third is the provision of the utilities, parks, schools, hospitals, and other public works needed for and suitable to each type of district.

If, however, the physical plan is to be more than a prettily colored map, each of its features must be backed with the legal powers and the public funds to carry it out. Thus the basic scheme of highways and development districts implies the power to plan not only for the separate municipality but for all its satellites and for the unincorporated and yet unsubdivided areas beyond it, but within the orbit of its possible expansion. The ability to develop a comprehensive pattern of interrelated land uses implies not only broader powers than usually now exist for subdivision regulation and zoning, but, in addition, means of assembling land in areas intended for redevelopment, and of bringing land prices in such areas into compatibility with the new use pattern.

Much of this looks to a drastic reorganization and extension of the powers of local government with consequent limitations of some of the individual freedoms of enterprise. Such a prospect is not without ominous overtones. Official planning, even in its present restricted field gives too frequent evidence of suffering from a Godalmighty complex and of showing little sympathy with, or understanding of, the grim facts of economics, popular preference (or prejudice), and the difficulties of building, filling and maintaining the structures which the plan envisages. With official powers greatly amplified, these tendencies might be aggravated.

#### **CAN REGIMENTATION BE AVOIDED?**

Official planning, in spite of an increasing recognition of its importance, is today on the defensive. The drastic controls of wartime, the penchant of planners to talk in terms of control and regulation, the attitude of suspicion and disparagement which during the past decade has often been the official attitude toward private enterprise, all combine to raise opposition to the extension of governmental power, even where the possibility of benefit may be admitted.

In order to prevent such an impasse, we might try (so far as we are capable of it) an open- (Continued on page 158)



compromised by what can be afforded and what the market can provide. Not everyone who desires to own a home has the income or permanence of prospects that would justify the obligation, nor has everyone who wants a large plot the time it takes to care for it, or even to reach it conveniently from his place of employment.

Out of the basic facts of public preference and economic feasibility our plans must be made. With such facts in mind, what shall our neighborhoods be in terms of size, density of population, proportion of land covered with buildings? What facilities shall they have for recreation, shopping, worship? How shall they be protected from influences that would damage their character and values?

In answering all such questions it is difficult to avoid doctrinaire concepts. For instance, the primary school district has often been advocated as a proper measure of the size of a "self-contained" neighborhood. There is much to be said for the idea, but the suggested measure is by no means an exact one or applicable in all cases. The number of families required to support a primary school will be much less in a suburban subdivision than in an inlying apartment district. Nor do all communities agree as to the size of a school or the area to be served by it. Again, in any defined area, the number of primary school children may considerably vary over the years.

From the point of view of school administration, it is doubtful that school districts should be too rigidly defined or, in all cases, set too distinctly apart by planned barriers that are difficult to overcome in case redistricting becomes advisable. From the point of view of the practicalities of development, it must also be recognized that the school district is too large a bite for any but the largest operators to chew. If anything like a school district is to be the measure of desirable size, in the majority of cases we must think and plan in terms of subneighborhoods that are within the average builder's scope, and include time as well as space in our plans.

#### WHAT SHALL WE BUILD?

Among the most controversial elements of the plan are density and land coverage. We seem fairly well agreed that such coverage as represented by the old row-house areas of Philadelphia, the tenements either of New York's grimy east side or its gaudy Park Avenue are undesirable. Yet there are undoubtedly a considerable number of families to whom such crowded living is compatible. It becomes an evil only when it forms so general a pattern that there is no choice for those preferring other modes of living, or when it is carried to the extent of necessitating dark rooms and the absence of any nearby open spaces to which even the most confirmed cliff dweller may go for relief.

We have found ways in both private and public projects of combining population densities of over 100 families per acre with land coverage low enough to assure rooms that are amply aired and lighted, and open areas for outdoor recreation. Such projects often permit construction economies. In high priced land areas in large cities, they permit families to live close to their work and to the recreation and commercial facilities of the central district. There seems no good reason why such projects should not exist for those that like them.

That they cannot provide for the whole housing demand is obvious. It is equally obvious that, to permit the same openness with other than high apartment buildings, the land area

per family unit must be correspondingly increased as we go to walkup apartments, row houses, and the detached dwellings, which, at the other end of the scale, will probably not run over five families per gross acre. A wide range of density can be satisfactory if the land plan and the housing is worked out in combination to provide light, air and such privacy and openness as the prospective residents demand, and the more general considerations of public health require.

#### WHY NOT MIXED NEIGHBORHOODS?

There seems no sound reason why a neighborhood should contain exclusively one type of housing, one level of density, or one narrowly restricted group of residents. The tendency toward what FHA refers to as "homogeneity" may be overplayed, whether it be in the types of houses or the incomes of their occupants, to the disadvantage of neighborhood stability and a democratic way of life. Tuxedo Park on the one hand and the vast agglomerations of subsidized housing on the other represent the poles of undemocratic exclusiveness. The one has already succumbed to its inherent weakness; the other, to paraphrase Patrick Henry, may profit by its example. To see the advantages of a planned heterogeneity, planners might profitably pilgrimage to Houston where at River Oaks they may find a neighborhood with its commercial area, its apartment area and its detached dwellings serving families with incomes varying several hundred per cent. Here the balance of housing type and price has resulted in an economic stability unlikely where any single group is catered to exclusively.

Diversity, of course, can—like uniformity—be carried too far. We have to recognize again that we are dealing with people who have preferences and prejudices as to the people around them. To the extent that such attitudes exist, they are facts that must be taken into account by the planner. The difficulty is in knowing positively to what extent they are facts, rather than something the planner himself takes for granted, and to what extent and through what means they might be successfully overcome should he have good cause for doing so. Here we need more enlightenment and perhaps greater willingness to experiment.

The maintenance of the character of a neighborhood once it is established is as great a problem as its initial establishment. With the exception of new and partially developed neighborhoods, FHA states categorically that "neighborhoods tend to decline in investment quality." This dictum certainly may be questioned. Houses can be kept in repair or replaced, and by so doing whole sections that have advantages in location, plan, or tradition can and have been kept on a fairly even economic keel for long periods, or, like Beacon Hill (Boston) or Georgetown (Washington), have been restored after periods of decline.

Neighborhoods, however, frequently do decline, or at least change in character; but it is not always disadvantageous when they do so. Thus in the fluid structure of a fast growing city the pressures of commercial and industrial expansion cannot and should not always be restricted. The disadvantage in neighborhood change comes when the change is catastrophic—that is, when it occurs before the original structures have neither outlived their usefulness nor can be replaced by others of greater earning power.

The slower growth of the average city today permits the expectation of greater neighborhood stability than we have previously been able to contemplate. Wisely drawn and wisely administered zoning, subdivision regulations, and deed



# FUNDAMENTALS OF LAND PLANNING

Miles L. Colean, former Assistant Administrator of the FHA, surveys areas of agreement and disagreement on city and regional planning, suggests that planning become a stimulus for private enterprise.



**MILES COLEAN** left the FHA in 1940 to serve as director of housing survey for the Twentieth Century Fund. Since then he has also acted as consultant to the Advisory Committee on National Defense and is a member of the board of governors of the National Association of Housing Officials. He is at present vice president of Starrett Brothers & Eken, builders.

**L**AND PLANNING is the science of adapting the surface of the earth to the uses we desire to make of it. The adapting part is easy. We have the designing talent, the engineering skill, the organizational ability, the manpower and physical equipment to produce anything from the simplest urban subdivision to whole towns complete with great highway networks, water supply and sanitary facilities. The difficult part of land planning is in agreeing on what we are to plan for and in determining how we desire to reach the objectives agreed on. We can have what we want, if we want it badly enough. The problem is to make up our minds about what we want and how we are to get it.

Our minds are still far from made up. We have the conflicting objectives on the one hand of the recentralization school, currently expressed in urban redevelopment legislation, and, on the other, the decentralization school as voiced in the promulgations of Frank Lloyd Wright and embodied less philosophically in the activities of operative builders. Opinions no less conflicting come out of every discussion of the more detailed questions of population density, land coverage, and building type. I have even seen work delayed by discussion about the merits of super-elevated as against crowned street pavements, and whether sidewalks should be placed against the curb or separated from it by a strip of lawn.

Among these large and little controversies, however, the patient investigator can find a considerable area of agreement. We want to see an end of sprawling, planless urban accretion. Whether it is the public houser or the operative builder, Herb Nelson or Eliel Saarinen speaking, we want to see the future city as an association of neighborhoods properly related to one another and to the commercial and industrial areas of the city. We want a modern street system to provide not only circulation for the city as a whole but protection to its separate neighborhoods, outlining them and setting them apart from other areas. Within the neighborhood we want to keep traffic to a minimum and provide for safety and quiet.

We are agreed that the pattern of shoulder-to-shoulder development on which many of our cities have developed should not be continued. We want more openness, more

land left for grass and trees and recreation. We want more light in our dwellings and a friendlier relation between the inside and the out-of-doors.

We hope to create neighborhoods that will have a lasting quality, wherein values will be stable because people—the same kind of people more or less who founded the neighborhood—will find it pleasant for a long time to go on living there. We want to find ways of defending neighborhoods from deterioration, whether caused by neglect from within or by adverse encroachments from outside their borders. We want, in short, an end of urban chaos, and in its place peace, safety and enjoyment.

Most of these points on which we find agreement are thus the result of a common opinion as to what is bad about our cities as we have known them. Our planning concepts, more than we are apt to realize, are based on a revolt from what we have found oppressive, uncomfortable, dangerous, and uneconomical. Our unanimity has been largely confined to the things we don't like. Our controversies grow up around what we want in their place.

## WHAT MAKES A GOOD NEIGHBORHOOD?

As to what makes a good neighborhood there is no simple nor single answer. The principles on which we agree are for the most part generalities, and, as we have seen, negative generalities at that. They are subject to a great variety of interpretation in terms of street patterns and blocks of buildings, and even greater variety in terms of people. In much of our planning we tend to concentrate on the abstractions of form and materials, and upon the more dangerous abstractions of what families ought to be and what they ought to want. The attitude—so shrewdly observed and painstakingly developed in other industries—that the product must suit the buyer and the producer must find out what the buyer wants, is too often replaced by the superior detachment of the planner, who knows all the answers in advance.

In creating our neighborhoods we need first some of the humility and horsesense that cause automobile manufacturers to spend hundreds of thousands a year checking consumer preferences. From what little information we have, we know that people want many different kinds of housing and many different kinds of neighborhoods. The desire for a detached house with a considerable plot of ground is undoubtedly widespread, but it is by no means universal. Some families like apartment buildings, and high ones at that, where they are freed from the lawnmower and garden spray. Some groups are clannish and like to live with others of their kind. Others get stimulation from the diversity of the people around them. Some like to engage in community activities and appreciate the ministrations of a benevolent management. Others like to be left strictly alone.

Since houses cost money and locations are fixed, the ideal in the house or the neighborhood must frequently be



# PLANNED NEIGHBORHOODS FOR 194X

When the focus of planning is shifted from isolated building to the integrated group, a change takes place which is not merely one of degree: it produces an entirely new kind of problem. And big as our thinking has been in this country, this "new kind of problem," involving the community as a whole, or sizeable sections of it, has remained almost completely beyond our grasp.

The reasons for our inability to apply the proven efficiency of large scale operation to the community as well as the factory are perfectly well known. Basic is our traditional system of small scale land ownership, which has presented virtually insuperable obstacles to an economical program of land acquisition and consolidation. Linked with this is the fact that the most attractive opportunities for investment have been offered by the subdivider on the outskirts and by the commercial developer in the center.

If today we are inclined to think in terms of overall, big scale planning, it is because forces of terrific potency are attacking our most deep-seated beliefs about land tenure and use. To cite but one, decentralization in the cities has already gone so far that both investors and public officials fear that this trend will eventually destroy the cities themselves.

This issue reflects these forces and the ideas they have generated. Both the projects and the numerous technical articles which accompany them reveal the planner, not as an individual, but as a composite figure whose symbol might well be the conference table. That many of the project designers have turned to in-city areas for rehabilitation suggests the urgency (and the practical wisdom) of putting our cities back on their feet. Where outlying sections have been selected for the projects, there is evidence of a strong desire for *controlled* development. Equally significant is the disappearance of the grandomania of the 1920's: today's planner is thinking in terms of manageable neighborhoods. While the large city would naturally have more neighborhoods than the smaller one, as well as skyscrapers, superhighways, etc., no one seems particularly impressed by mere size.

Finally there is the fact that the projects were not dreamed up by architects working in isolation: they are the result of a collaboration with realtors, builders, bankers, and in one instance, a manufacturer. This is perhaps a measure of the extent to which the architectural profession has grown, and of what Building as a whole has learned. The stake in the city today—in its decay or rebirth—is a common stake, and at long last it is being recognized as such.

Never, in its many years of existence, has THE ARCHITECTURAL FORUM been privileged to publish an issue giving a picture of our common future at the same time so hopeful and so realistic.



State Planning Board; 200 copies. "We intend to distribute these to members of the local planning boards in this state."

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J. W. Bloodhart, Great Lakes Steel Corp.; 100 copies.  
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Postwar Planning Committee. I am writing Frank Cortright, Executive Vice President of the National Assn. of Home Builders, today suggesting that some plan be worked out whereby all of our members in the National could be sent one of these copies."

Mr. Cortright anticipated Mr. Kerr by several days, ordered 1,000 copies for his Association's members.—Ed.

**Piqua:** Albert Schroeder, City Engineer, City of Piqua; 100 copies.

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#### TENNESSEE

**Memphis:** Memphis Housing Authority; 100 copies.

**Nashville:** Hayden B. Johnson, Director, Tennessee State Planning Commission; 50 copies. "I hope that we may be able to work something out along these lines. It is certainly a pleasure to find some material which can be distributed to a layman without appending a glossary and an explanatory memo."

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# PLANNING WITH YOU

By the Editors of THE ARCHITECTURAL FORUM

A FLOOD OF CHECKS IS CARRYING "PLANNING WITH YOU" OUT TO THE GRASS ROOTS

In its August issue THE FORUM published the text of "Planning With You"—a straightforward, easily understood statement advocating city and town planning and emphasizing the necessity for action. This text is now available as a sixteen-page, illustrated pamphlet in two colors with the above cover also in color. The response has been immediate and heartening. Orders have accumulated from many types of organizations and from communities of every size. Authorities have been outspoken in their praise of THE FORUM's program. Hugh Potter, President of The Urban Land Institute and Chairman of the Houston Chamber of Commerce Postwar Planning Committee, ordered 1,000 copies; Catherine Bauer, Housing Expert, Hugh Pomeroy, Director of the National Association of Housing Officials, Dorothy Rosenman, Chairman of the National Committee on the Housing Emergency, Mark Fortune of Regional Plan Association, Inc., and many another has praised its simple, graphic language.

"Planning With You" has struck a spark that will start planning programs in dozens of U. S. cities and towns. But it should be widely distributed in every city and every town, yours included. Examine the following statements and typical orders, then use the coupon on the reverse of this sheet and place your order now. Orders received promptly will be included in the third edition. Act today, and avoid waiting for your copies of "Planning With You."

## ALABAMA

**Birmingham:** J. C. de Holl, Housing Authority of the Birmingham District; 20 copies.

## CALIFORNIA

**Los Angeles:** George J. Cox, Professor, University of California; 30 copies. "At last we are beginning to get down to fundamentals. This is something we have been hammering at for decades."

**San Diego:** Robert Hays, Manager, San Diego Chamber of Commerce; 20 copies.

## CANADA

**Montreal:** R. E. Bostrom, President, The Province of Quebec Assn. of Architects; 100 copies.

**Winnipeg:** C. N. Blankstein, Architect; 50 copies.

## CONNECTICUT

**New Haven:** Charles E. Downe, Acting City Plan Engineer, City Plan Commission; 20 copies.

## DISTRICT OF COLUMBIA

**Washington:** C. T. Bridgman, Secretary, War Construction Committee, Structural Clay Products Institute; 260 copies.

## FLORIDA

**Daytona Beach:** J. Saxton Lloyd, Chairman, City Planning Board; 100 copies.

**Orlando:** Violet Dunham, Florida Assn. of Realtors; 50 copies.

## GEORGIA

**Atlanta:** Harold Bush-Brown, Head of Department of Architecture, Georgia School of Technology; 100 copies.

## ILLINOIS

**Chicago:** Joseph L. Lambin, Doremus & Co., Advertising; 12 copies. "I know one dozen key executives who could read it with interest and profit." Chicago Chapter, American Institute of Architects; 300 copies.

**Hinsdale:** Colwell Beatty, Hinsdale Federal Savings & Loan Assn.; 100 copies.

## INDIANA

**Evansville:** F. B. Culley, Southern Indiana Gas & Electric Co.; 250 copies.

## IOWA

**Ames:** J. W. Prather, City Auditor & Clerk; 50 copies.

## KANSAS

**Topeka:** Charles L. Marshall, Architect; 20 copies.

## LOUISIANA

**Baton Rouge:** Ralph Bodman, Bodman & Murrell, Architects; 30 copies.

**New Orleans:** E. C. Rolfs, Secretary, Oak Homestead Assn.; 50 copies.

## MAINE

**Augusta:** Ralph G. Webber, Chairman, Augusta Planning Board; 200 copies.

**Houlton:** W. E. Brackett, Town Manager; 100 copies.

## MASSACHUSETTS

**Boston:** Miss Elisabeth M. Herlihy, Chairman, Commonwealth of Massachusetts



plauded discreetly. Only a few die-hards among the Association's membership still feel that it is impossible to make money by dealing in FHA-insured mortgages; most now want to see government insurance extended to cover farm mortgages.

Next day First Assistant Commissioner Earle S. Draper gave an impartial pat on the back to many brands of public and private postwar planners, came out strong with a theme the mortgage men liked well enough—"rebuilding the cities is primarily a local job." Mr. Draper thought decentralization would continue and perhaps accelerate, suggested that "building of new and rebuilding of old sections should proceed simultaneously for best results and long-term stability."

As to the need for large scale rebuilding operations, Draper said there "are few institutions of the size and strength of Metropolitan Life to do the whole job," thought a cooperative union between building and management interests would be called for. As air-minded as any other postwarrior, Draper suggested that increased air travel will make city ground patterns as familiar as the skylines of yesterday, point up civic consciousness of the unsightly splotches of urban blight.

Said MBA President Charles A. Mul-

lenix, Cleveland: "Administration of FHA has been good, but it could have been better had it not been dominated by the 'public houser' influence." Mulenix hopes to see both the FHA and the Federal Home Loan Bank Administration removed from the National Housing Agency, which he described as a pyramided bureau "used for the domination of private endeavor, both in the financing and construction of housing, by socialistic-minded public housing interests." If public housing were managed by private organizations, he said, over-head cost could be reduced by two-thirds.

Through with speech-making for another year, the MBA wound up its business, elected Herold G. Woodruff, Detroit, president; L. E. Mahan, St. Louis, vice president.

## HOMES FOR HEROES

Anxious last session was many a Congressman to get his name on a bill that would make it easy for returning veterans to buy a piece of the U. S. Typical was the bill (H. R. 3014) introduced by Representative R. F. Murray (Dem. Wis.) which would authorize the Farm Credit Administration and the Federal Home Loan Bank Administration to make \$1,000 grants plus loans to enable men and women now in mili-

tary service to buy home and farm properties.

To the stack of such legislative schemes the present session is sure to yield, Senator John H. Bankhead of Alabama was scheduled to add a more conservative plan to provide federal mortgage insurance for farm purchase, with special easements for veterans. While the Federal Housing Administration already has authority to insure farm mortgages if at least 15 per cent of the total is used for new construction or repairs, FHA appraisal standards are not geared to give weight to the principal value of the land for farming, and most farm buyers have found they could get a better appraisal elsewhere.

Simmering for some time has been a proposal to add a new title to the National Housing Act authorizing 95 per cent mortgage insurance for veterans who wish to buy homes (FORUM, June, '43). Last month some of the enthusiastic support of this measure dwindled; Washington home building representatives, once ready to assume sponsorship began to wonder about the advisability of slanting the FHA program to make special allowances for certain classes of home buyers, thought veterans would likely have a bonus in their pockets that would help to put them on the road to home ownership.

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Arme

British Official Photo



Todt built Autobahnen in peace . . .

. . . now repair lags behind bomb-damage in cities like Lübeck

## TODT IST TOT

First march of the gigantic Todt building organization was to build the 4,000-mile network of Autobahnen, super-highways linking the Rhine to the Polish frontier, planned as early as 1935 to bear the stress of tanks and big gun carriages. Next the Todt builders marched westward to build the massive ramparts of the Siegfried Line. They marched into Poland, built the concrete roadway over which German tanks rolled into the Caucasus. Then they goose-stepped into Occupied

France, built the hidden honeycomb of sub bases that launched the Nazi wolf-packs. Finally they followed the Nazi push into Russia, changed battered railways to standard German width, rebuilt bridges, airdromes. But last month it looked as if the Todt builders would march no more. Missing was Major General Fritz Todt, the wizard builder who died last winter in an air crash on the Eastern front. Missing were the 1,200,000 sturdy Reich German workers once forged by Todt into a single massive instrument of war. Next to Allied bombard-

ment, breakdown of German building showed up as the biggest factor in the foundering of the Nazi industrial war machine.

Stopped dead by lack of labor and material was the strategically vital transfer of industry from the bomb-devastated Ruhr district to less vulnerable sites in eastern Germany. Apart from the Todt organization, German building has lost 1,000,000 men since 1940, now numbers about 1,500,000. Todt itself can now count less than 15,000 Reich Germans within its ranks,

(Continued on page 144)



dustry to employ disabled veterans. Representative Patman said his Small Business Committee was ready to go to work investigating present surpluses.

## RENT FRONT

Hottest fight of the rent control program has raged around OPA's regulation forbidding home sales in war centers unless the buyer can make a down payment of one-third the purchase price. Under continuous fire from several directions, rent administrators wavered, promised last June to repeal the ruling, then started a delaying action. Last month the rent division finally offered its bid for peace: modification of the regulation to reduce the required down payment to 20 per cent, tacked on a warning proviso that the figure might go up again if any squeeze is felt. On the waiting period, OPA would not budge, said those who buy occupied houses must continue to wait 90 days for the renters to move. Still unpacified was many a Congressman who believed that OPA had skipped the important step of asking Congress for authority to regulate real estate sales; still hidden in the House Banking and Currency committee was a bill introduced by its ranking minority member, Representative Jesse P. Wolcott (R. Mich.) specifically forbidding OPA to control real estate sales.

Meantime, OPA was busy moving rent control into Miami, Fla. while the Army and Navy moved out. Attempting no rollback, the rent division said September would be considered the fair rent date, waded conscientiously into the double trouble of trying to peg rents in a way that would allow for seasonal fluctuations. While residential rent control settled firmly over New York, renters of the loft buildings along crowded Seventh Avenue complained of stiff rent increases. Noisiest protest rose from small dress-goods manufacturers, who enlisted Mayor LaGuardia's aid, stirred up a rumpus that building owners feared might put new life in an old bill to invoke control of commercial rents.

## GOOD OLD FHA

There were few audible sniffs of disapproval when the gentlemen of the Federal Housing Administration rose last month to address members of the Mortgage Bankers Association, assembled at Chicago's showy Drake hotel for their thirtieth annual convention. With scarcely a lifted eyebrow, the mortgage bankers listened carefully to Commissioner Abner H. Ferguson's promise that FHA would be ready "to energetically press forward in the postwar building program," ap-



Myron Ehrenberg

**BRITISH BUILDING MISSION** in New York: (l. to r.) Sir George Burt, Sir James West, Mr. Alfred C. Bossom. Not present, Mr. Frank Wolstencroft, labor representative.

## BUILDERS FROM BRITAIN

Typical of present effort by Britain's war-pressed government to help the building industry get ready for the big peacetime job ahead is the unprecedented mission sent by the Ministry of Works to study U. S. building methods and costs. Chosen to make a six-week, coast-to-coast survey were four top men: Architect Alfred C. Bossom, member of Parliament and chairman of the Parliamentary Amenities Committee of all parties both Lords and Commons; Sir George Mowlem Burt, director of John Mowlem & Co. and chairman of the building research board set up by the Department of Scientific and Industrial Research; Sir James Grey West, chief architect and director of postwar building, Ministry of Works; Mr. Frank Wolstencroft, vice president, Trade Union Congress and member, International Federation of Building and Woodworkers.

In New York the mission visited Metropolitan's Parkchester, came away enchanted by American kitchen equipment and layout, thought Britain's postwar homes must offer housewives comparable working convenience. They were equally enthusiastic about the way U. S. skyscrapers spring up "almost overnight," thought Great Britain had yet to learn to build, not for posterity, but for a generation, believed that American building finance is closer to a practical recognition of when senile buildings ought to die. Said Sir James, who has designed such memorable public buildings as the Royal Courts of Justice at Belfast and London's Ministry of Pensions, "If we could, we would like to plan buildings whose structure

and equipment would grow old at the same rate, fall apart promptly after 50 years."

Anxious to learn more about how American building uses machinery, and especially small mechanical tools to increase individual worker output, the experts said British builders were perhaps chary of trading tried methods for mechanical shortcuts, thought that education in new techniques would be an important part of the training program for building labor now being formulated by the Ministry of Works and the Ministry of Labor.

## House of Commons Exhibit

To step up public interest in improved building methods and equipment, the mission will take back photographs of the best the U. S. has to offer, plans an exhibit in the House of Commons, which will later be sent around the country so everybody may take a look.

Part of Britain's postwar building program will be to meet an immediate need for four or five million homes; the mission agreed that private enterprise will probably build more than two-thirds of these. All were keenly interested in U. S. development of prefabricated housing, but believed that prefabrication of such structural parts as bathrooms and kitchens holds greater possibilities for British use than prefabrication of the house as a unit.

Expectation of peacetime shortage of both skilled building labor and materials has focused British planning sharply on the need for securing the greatest possible yield from what is available; the British government's explorations may well become a guide for U. S. effort to regear building to meet a wider market.



the WPB conference table.

Dun & Bradstreet's Arthur D. Whiteside, now heading WPB's Office of Civilian Requirements, steered the reconversion opener. No theorist, Whiteside knows the construction industry is basic in U. S. economic

tape a bigger one. WPB moved tardily to unwind some of this, said it planned to introduce new shorter forms for priority applications on war housing jobs amounting to less than \$10,000, would also simplify the many and tangled amendments to building limitation order L-41.

To Congress NHA said pointedly that speedy action was needed to avert a threatened stoppage of all privately-financed war housing in mid-October, when FHA would bump into its Title VI insuring limit, have \$1,200,000,000 worth of war housing mortgages on its books. Brief as the 14-line bill itself was House action to lift the roof on Title VI insurance by \$400,000,000, extend authorization for war housing insurance to July 1, 1945 and give FHA authority to go on writing insurance on remodeling loans (Title I) and on older home mortgages (Title II) for three more years. No objection was expected from the Senate.

## WAR SURPLUS THREAT?

How, when, and for what price the government will dispose of surplus war property are life and death questions to many a U. S. business. Recalling the reckless dumping and scrapping of a near \$4 billion goods and material surplus at the end of World War I, producers and distributors shiver at the thought of what might happen if a World War II surplus, maybe ten times as large, were to be indiscrimi-

nately dumped on the market or, worse, used by the government to club market prices down after war controls are loosed.

Every part of the construction industry would be sharply affected by the course of after-the-war liquidation. Stowed away in Army and Navy warehouses against a time when sudden need might arise is enough building material and equipment to make manufacturers nervous about planning for the maximum output that will help put building on a maximum postwar production level. In federal ownership by war's end will be about 25 billion dollars worth of war-built plants and military installations and close to one million war houses—thus about one-fifth of the nation's real estate might be subject to procedures set up for handling war surpluses.

Believed to have both Administration favor and wide Congressional support was a bill (H. R. 3200) introduced in mid-September by Representative Wright Patman, Texas, chairman of the House Committee on Small Business. The bill would centralize all liquidation under a Surplus War Property Custodian, empowered to act on recommendations made by the Smaller War Plants Corp. for selling surpluses in a way that would strengthen small U. S. business, would check speculation in surplus commodities by prohibiting re-sale within a given time, and require private in-



**WHITESIDE** will steer reconversion

health, knows, too, that building must be ready to absorb millions of workers until war plants can be re-tooled.

The new-born construction committee said that the first essential step on the long road back must come from WPB: periodic reappraisal of man power and material resources, prompt allotment of any surplus to civilian use.

## HOUSING LAG?

Since careful John Blandford took over the reins, war housing has moved along with a good deal of serenity. But last month small sparks of discontent set off some fairly noisy charges, brought rumbling countercharges. Lambasting NHA mismanagement in its convention report (see page 144), the A. F. of L.'s housing committee also made a stir with an analysis in the Federation's monthly publication purporting to show by NHA's own figures that only 40 per cent of last year's war housing program (July, 1942 through June, 1943) has been completed. NHA spokesmen muttered that the figures were already out of date, that 70 per cent of the units programmed were ready to move into by the end of August, the rest were now rolling out at the rate of 1,000 a day.

To WPB complaints of West Coast housing shortage, NHA said sharply that if housing was lagging, materials lack was a big reason, but WPB red-



**LOCAL NEED FOR WAR HOUSING** has varied sharply as shown by this official NHA map (data as of June, 1943). Geared directly to war industry, some of this housing will be tenantless if plants shut down, a new postwar migratory wave begins. More than 50 per cent of war housing is permanent construction; its continuing usefulness is principally dependent on how far peacetime industry can supplant war industry on a local basis.



## THE MONTH IN BUILDING . . . NEWS

Industry-wide construction committee charts first steps to reconversion (this page)  
 . . . Congress raises FHA roof in a hurry (page 60) . . . Action needed to forestall dumping of surplus war property (page 60) . . . Britain sends building mission to the U. S. (page 61) . . . German building staggers under war load (page 62)  
 . . . U. S. planning begins at home (page 148).

## REVIEW

Scarcely had the returning 78th Congress hung up its hat when it found the ubiquitous National Housing Administrator once more on its doorstep. Mr. Blandford's persistent need for more housing money was an old story to Congress, but it had a new urgency. War Manpower officials, touring the Pacific Northwest, reported that four out of five workers were leaving because of bad housing; WPB's vice chairman Charles E. Wilson went west to see for himself, found shocking evidence of how even at this late date housing lack is slowing up West Coast production; the A. F. of L. housing committee added a strident voice to the general complaint, charged that housing shortage was a prime factor in last summer's slackening of war production. Quick to sense a mounting public indignation, the House acted in one day to pass the bill raising FHA's war housing insurance ceiling by \$400,000,000; a speedy assent was expected from the Senate.

Real estate chalked up its first significant if provisional victory on the rent control front, loosed OPA's regulatory grip on home sales, but lost its last big-city salient when OPA clamped a lid on New York rents. Publisher Marshall Field got his grandfather's last birthday gift, became Chicago's No. 1 landlord and the sole owner of a \$168,000,000 fortune based on sterling real estate. Houser Nathan Straus ventured into a new field, bought New York's money-making radio station WNCA.

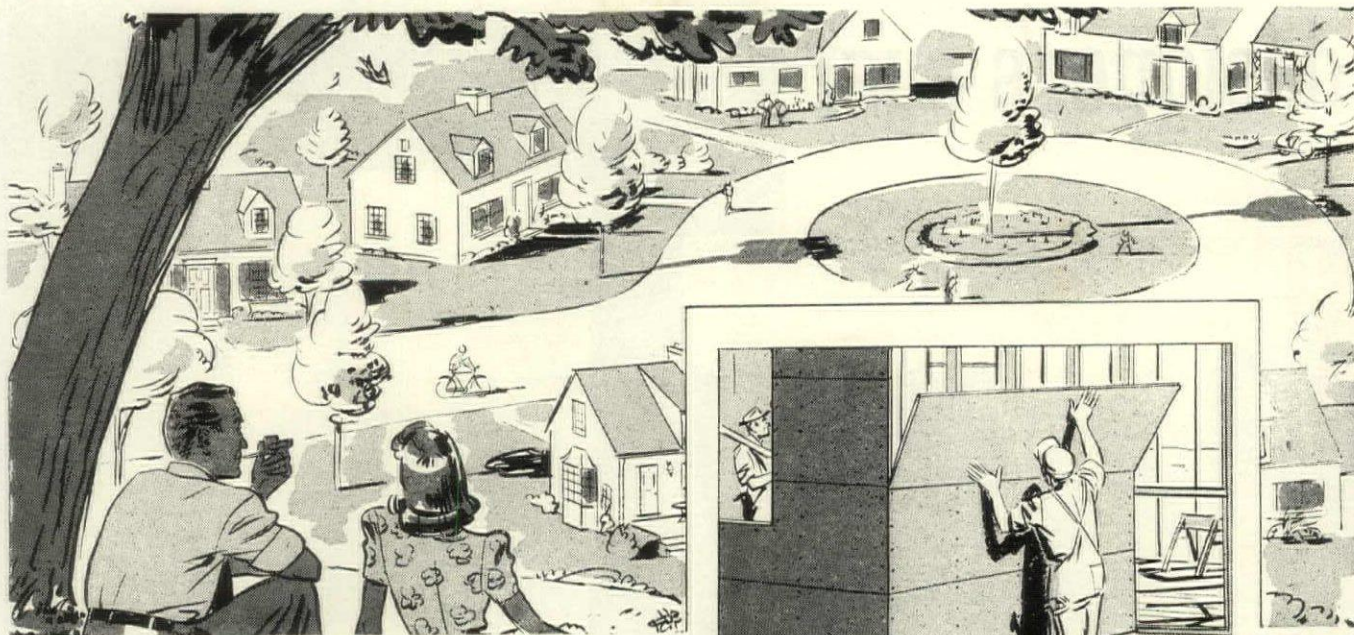
Taking hold at last of the grass roots of the nation was postwar planning; all over the U. S., cities and towns settled down to the job of measuring their own problems, meeting them by local action. Mortgage

bankers met in Chicago, fixed an earnest eye on postwar urban redevelopment; civil engineers worried officially about too much talk of the super-house of tomorrow; the Producer's Council wondered audibly how big a part the federal government should have in a postwar construction program, pondered silently any conclusions reached at a New York meeting of its advisory board. Home from England was the U. S. Chamber of Commerce's ebullient president, Eric A. Johnston, still full of enthusiasm for postwar planning conferences between U. S. and British business, but beginning to suspect that there was a gap between British interest in "economic security" and U. S. hopefulness for continuing "opportunity." Only federal agency charged with over-all planning, the National Resources Planning Board breathed its last, and Building, like every other industry, looked anxiously to see what kind of substitute Congressional planning would turn out to be, waited hopefully for some promising action from Senator Walter F. George's ambitious Postwar Economic Policy and Planning Committee.

## RECONVERSION

First sign of how the government expects to help industry bridge the gap between war and nonwar production came when WPB met with a newly-organized construction industry advisory committee, made the first tentative step-by-step plans for reconversion from maximum war production. Meeting together for the first time were top men of the many-sided construction industry; building labor and building capital, large contractors and small home builders, architects and engineers, realtors and subcontractors, manufacturers and distributors all sat at





## PROBLEM: FIND THE MIRACLE IN THIS POSTWAR PICTURE

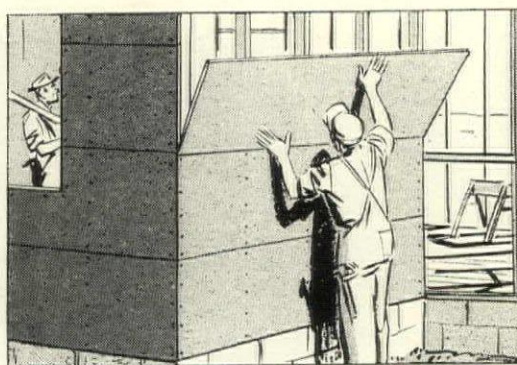
THE miracle lies in speed, comfort and low cost with which these new postwar houses will be built. As far as we can find out there will be no drastic changes in over-all design. But there will be lots of improvement in construction methods and materials.

Take the two Gold Bond products shown here, for instance. Gold Bond Gypsum Sheathing has proved itself a thousand times over on big government emergency jobs. It will be a must in many of the millions of homes which will be built after the war.

Gold Bond Rock Wool Insulation is another of over 150 Gold Bond products for walls and ceilings which will take their place in the postwar building boom. It, too, is doing "war work", keeping barracks warm in the Arctic and food fresh in the tropics. Both of these improved Gold Bond products are available now for any wartime buildings for which you may be specifying material. Write today for complete information.

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**GOLD BOND GYPSUM SHEATHING.** These husky rock-like panels cost no more than ordinary sheathing. They build the exterior walls in less time and provide effective fire protection for wood framing.



**GOLD BOND ROCK WOOL INSULATION** for postwar building. For the first time, even low-cost houses will enjoy the comforts and savings of new high-efficiency home insulation.

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*Everything - for walls & ceilings*

More than 150 different products for  
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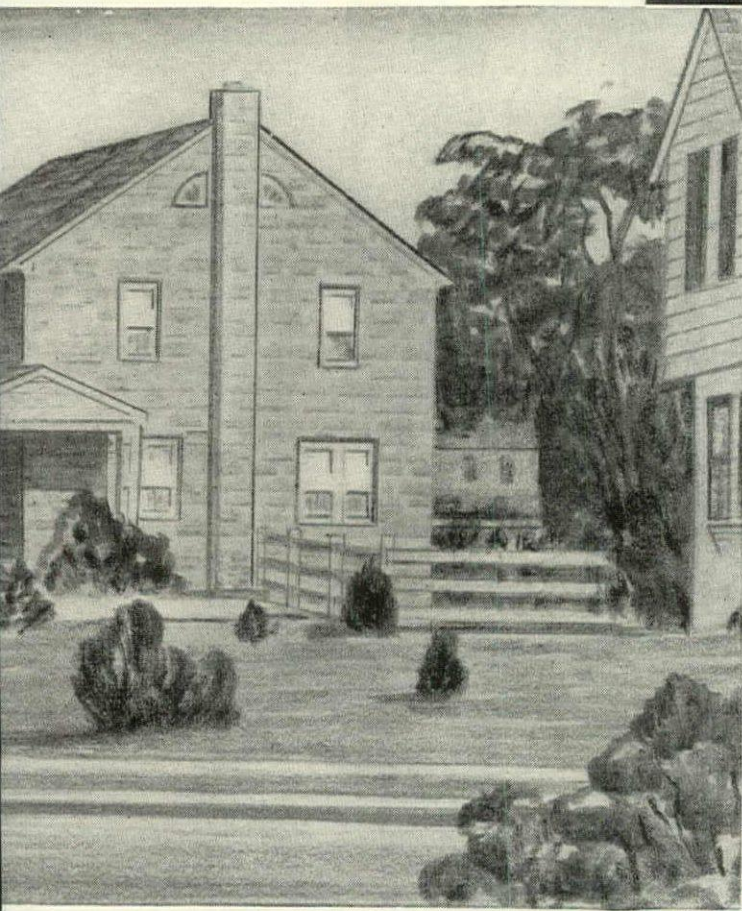
WALLBOARD...LATH...PLASTER...LIME  
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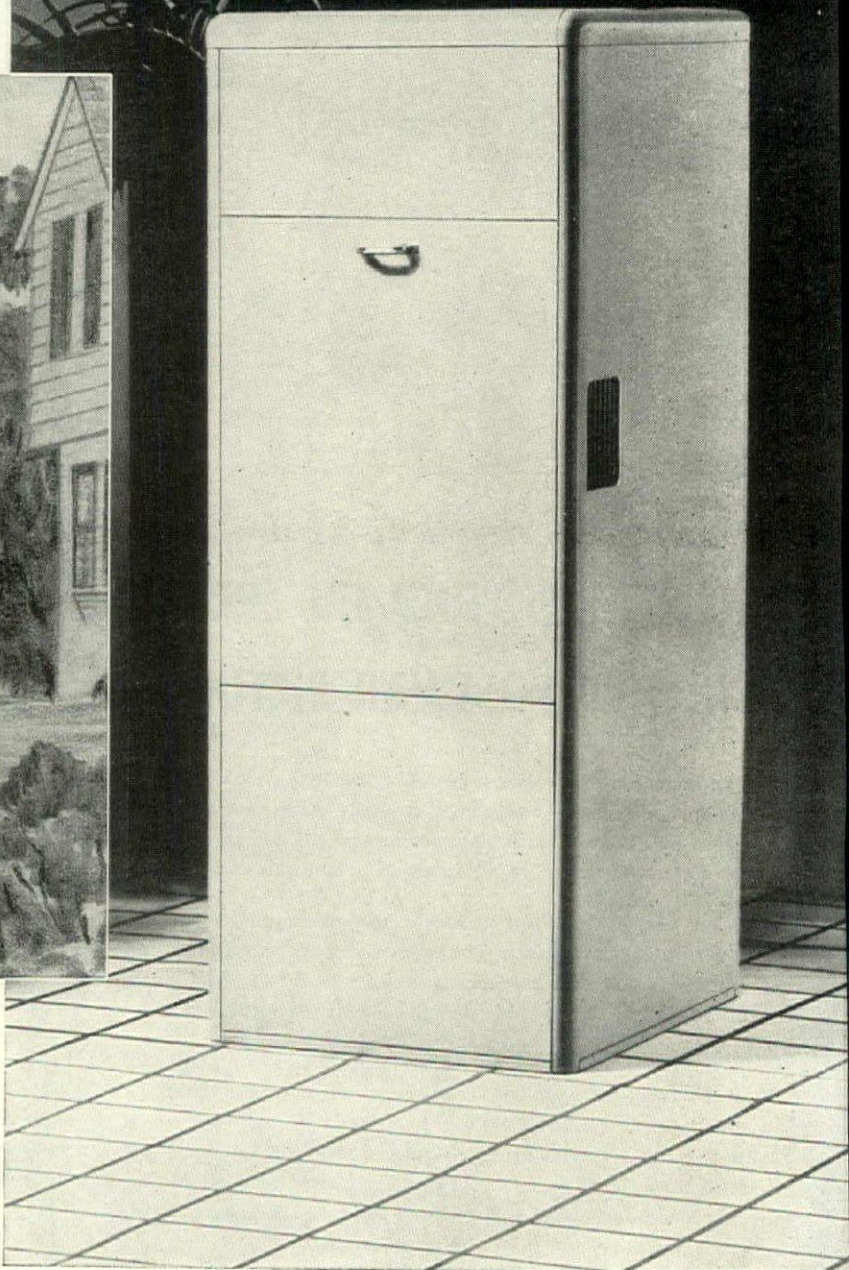
house with better heating for less money.

Now proven by three years of service, these various types of JANITROL furnaces, will be available in about 60 days from the time that materials are released. No furnace excelled JANITROL before the war, and nobody has had time to make extensive field tests since.

Everyone has ideas about miracle furnaces of the future (and we've got a few ourselves) but you can't heat a house with ideas. For real furnaces see the JANITROL listings in Sweet's Catalog.

Specify JANITROL for approved projects on which materials have been allotted.

**Offices and Engineering Service  
in Principal Cities**



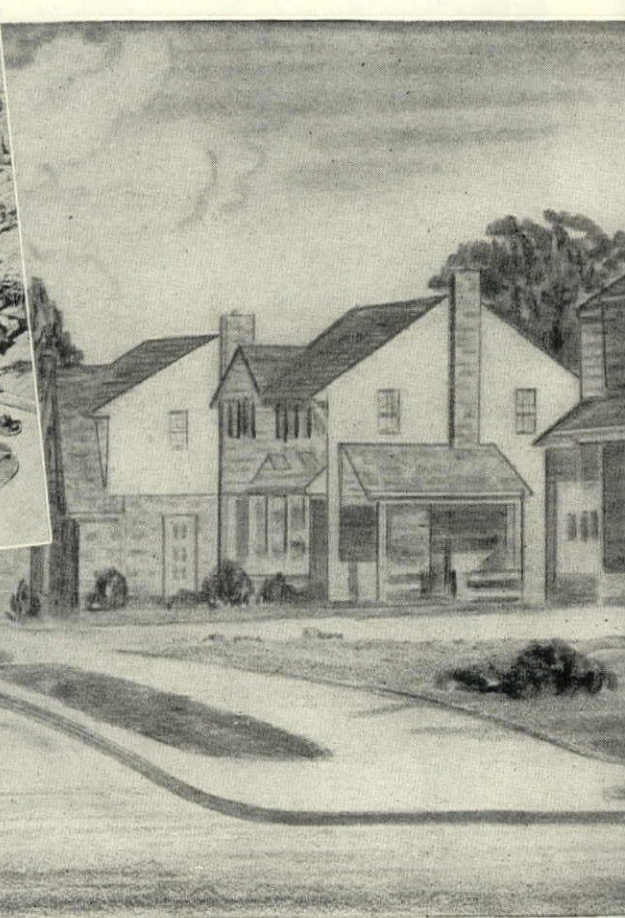
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Clean air is one of the greatest assets of any community, one of the first goals in community planning. All-gas communities, such as the Daytona Village private housing project (inset above) or the Haddon, N. J. development, have no smoke, soot, or residue problem. Both of these developments use JANITROL one hundred per cent.

**T**HE day that Hitler surrenders may be a long time before the end of the war, but indications are that building restrictions will be modified or relaxed long before Tokio surrenders. In this post-Hitler period, we believe you will want

1. **Good Furnaces**—Furnaces you can recommend without hesitation.
2. **Fast Delivery**—If you are to resume your rightful place in the building world you will have to enter the market quickly.

The JANITROLS we will make in this period will be small, compact, efficient, fully automatic furnaces, beautiful in appearance. Introduced just prior to the war, they

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In different sizes and types, thousands were installed—in big community projects—in private homes and apartments—in commercial establishments. In addition to conventional basement installations, they were installed in attics, in closets, in kitchens, in utility rooms, or were walled up out of sight in living rooms. With architects and builders Janitrol engineers worked out low-cost efficient installations to give more

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*Photos, Hedrich-Blessing Studio, Chicago*

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To control light, thousands of fluorescent lamps — the longest light-line in the world — illuminate the plant. The reflectors are coated with white enamel which evenly diffuses the light. White cement floors insure light reflection on the under side of wings and fuselages on the assembly line.

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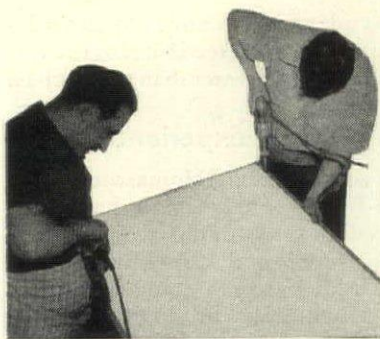
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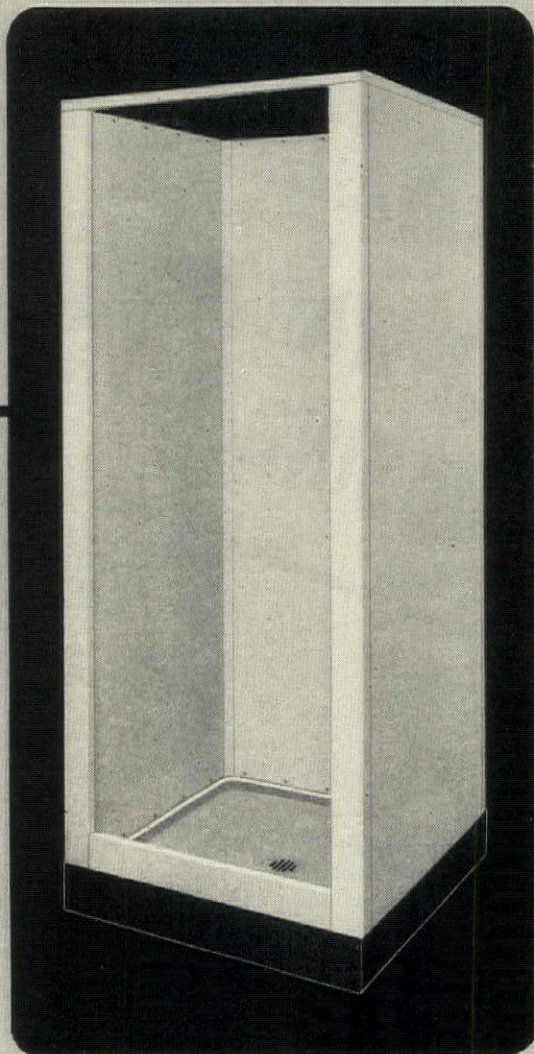
**REAL FACTORY  
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makes erection on  
the job easy . . . puts  
extra profits in the  
job for the plumber



This picture shows factory assembly line workmen attaching spring tension corner joints to back wall panel.



Metal flange for cabinet wall attachment is cast integral in the base; this patented Fiat feature makes a positive water tight joint and simplifies installation of wall panels on the job.



Prefabrication, the Fiat way, saves valuable time in installing the Volunteer. The hard work on the assembly is done at the factory on a production basis. The regular Fiat receptor has the metal flange for cabinet wall attachment cast integral in the base (a patented feature). Another important detail of prefabrication of the Volunteer is the permanent fastening, at the factory, of the front pilaster col-

umns to the side walls and the spring tension corner joints to the back wall. Only a few metal working screws placed in holes punched in position are required to complete the fastenings. The Volunteer is the simplest, most easily assembled shower cabinet ever designed. Can be completely erected by one workman in 18 minutes. Available for essential civilian use on adequate priorities.



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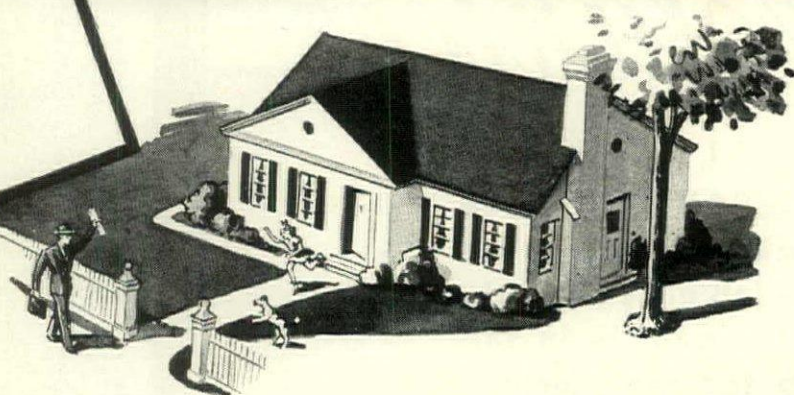
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## POST-WAR HOUSING



### "100 homes sold this week!"

100 house contracts a week—for local architects—promises to be a typical report from key department stores all over the nation, once Victory is won.

For the Homasote-pioneered campaign to sell Homasote Precision-Built Homes through the mass merchandising markets of the department stores has produced significant results.

The public response to the Homasote exhibits of quarter-scale models, already held in 30 stores, has been amazing. More than 70% of the people visiting these exhibits expressed their desire for a permanent post-war home. Thousands are placing their names on Homasote's preferred list—joining Homasote's Own-Your-Own Home Club.

Through this constructive merchandising, Homasote is developing a tremendous and eager post-Victory market for local builders.

### Engineered housing

For Homasote's Precision-Built System of Construction is not limited to "stock" houses, but will produce machine-perfect homes, designed by the individual buyer's own architect.

For seven years and at a research outlay to date of more than \$300,000,

Homasote Company has been applying sound engineering principles to the problem of building a home.

Homasote's purpose: to help the architect who specifies Homasote Building and Insulating Board sell more and better houses, with *assured* profits.

Result of this thorough study is Homasote Precision-Built Construction—a system which:

- (1) enables the architect to incorporate all the engineering economies of prefabrication into the homes he designs;
- (2) insures the architect's reputation against identification with jerry-building;
- (3) is based on the use of Homasote Board—oldest and strongest building and insulating board on the market—and other standard materials readily available in the local area;

(4) saves the architect's detailing time—thereby increasing his productivity—by providing complete charts and reference tables;

(5) is adaptable to any architect's design, with no change in a single overall dimension greater than two inches.

### \$36,000,000 experience

The soundness of Homasote Precision-Built Construction has been proved in \$6,000,000 worth of architect-designed, pre-war, private homes all over the country—and in \$30,000,000 worth of government war housing.

To the foresighted architect, Homasote Precision-Built Construction is the key to new post-emergency markets: low-cost housing projects constructed at a profit, large realty developments, machine-perfect homes in all price classes.

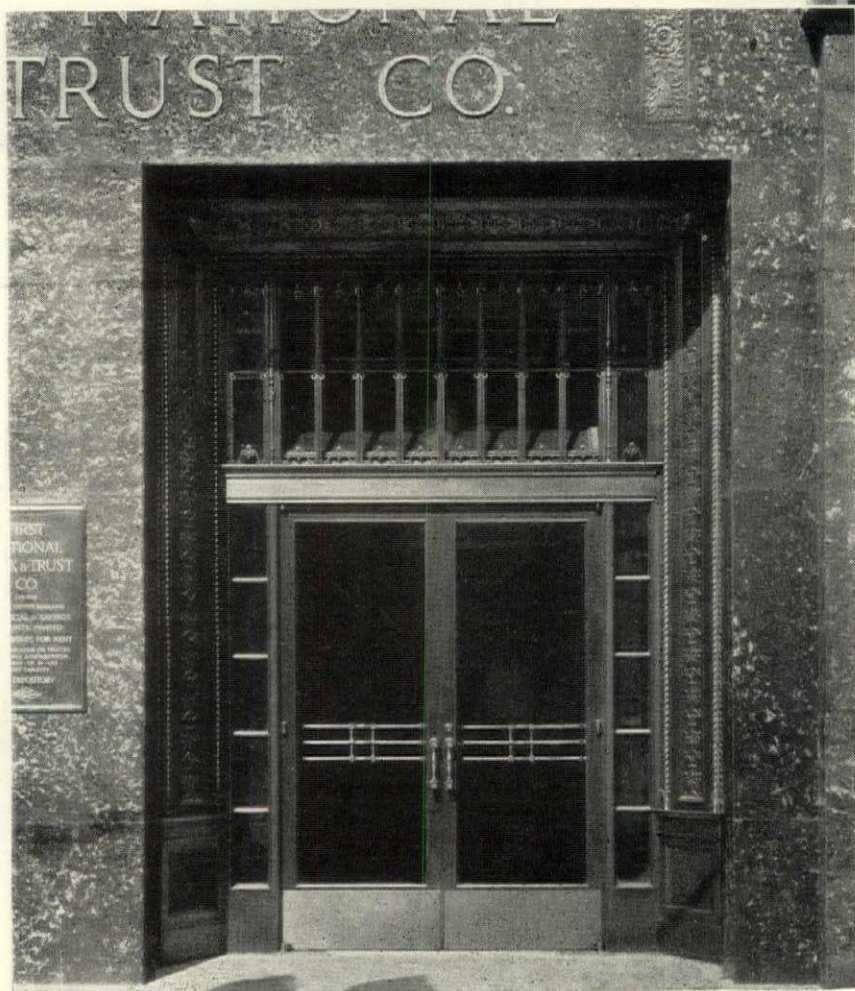
For more details, write HOMASOTE COMPANY, Trenton, New Jersey

**HOMASOTE**  
*Precision-Built*  
**HOMES**



# BETTER PRODUCTS For Better Buildings

Today Michaels' entire resources are engaged in the manufacture of war essentials, one of which is trestles for military bridges. But when victory is won, Michaels will resume the creation and production of scores of ferrous and non-ferrous metal products. We look forward to the time when we may again interpret in metal, the skill of discriminating architects and builders, and produce better products for better buildings in a world at peace.



## MICHAELS PRODUCTS

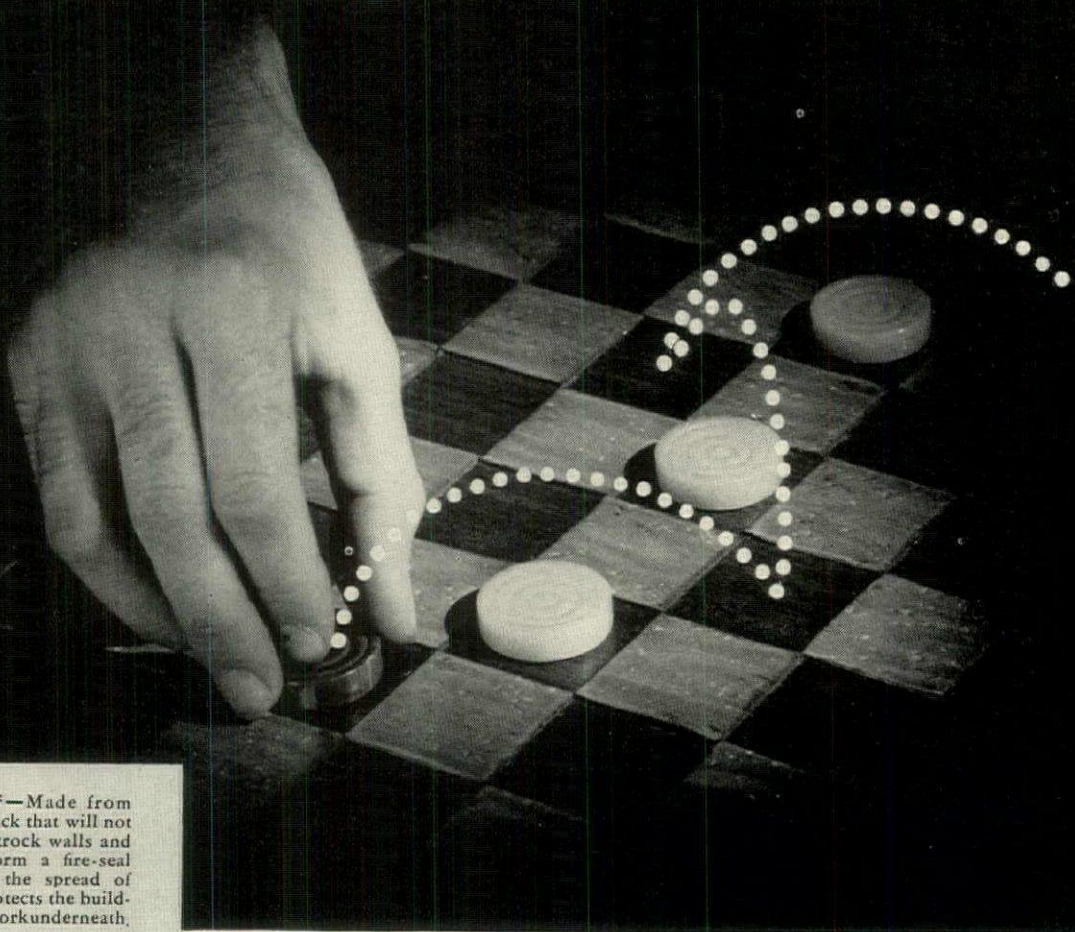
- Fixtures for Banks and Offices
- Welded Bronze Doors
- Elevator Doors
- Elevator Enclosures
- Check Desks (standing and wall)
- Lamp Standards
- Marquise
- Tablets, Signs and Name Plates
- Railings (cast and wrought)
- Building Directories
- Bulletin Boards
- Stamped and Cast Radiator Grilles
- Grilles and Wickets
- Kick and Push Plates—Push Bars
- Wrought Iron and Bronze Lighting Fixtures
- Wire Work
- Cast and Extruded Thresholds
- Extruded Casements and Store Front Sash
- Exhibit Cases
- Parking Meters
- Bronze and Iron Store Fronts
- Bronze Double Hung Windows
- Bronze Casement Windows
- Bronze Markers and Plaques



**THE MICHAELS ART BRONZE CO., Inc., Covington, Ky.**  
Producers of a wide variety of Bronze, Steel and Aluminum products



# 3 Jumps Ahead



**FIREPROOF**—Made from Gypsum rock that will not burn, Sheetrock walls and ceilings form a fire-seal that fights the spread of fire and protects the building framework underneath.



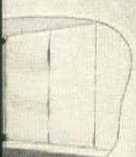
**TAKES ANY FORM OF DECORATION**—Any finish that is sprayed, brushed or pasted on may be successfully applied on Sheetrock; or it may be purchased already decorated—ready to apply.



**WELDED WALLS**—Panel joints concealed and welded together by Perf-A-Tape ... stronger than the panels of Sheetrock themselves.



**VERMIN-PROOF**—Sheetrock is made from rock ... it does not attract or support vermin of any kind.



**WON'T WARP OR BUCKLE**—Sheetrock is like a stone wall. It does not twist and pull out of shape with changes in temperature and humidity conditions.

## SHEETROCK

### "Fire-Sealed" WALLS AND CEILINGS

**ONE** . . . Walls and ceilings of Sheetrock\*, the fireproof wallboard, form a "fire-seal" that fights the spread of fire and protects the building framework.

**TWO** . . . The Pre-cast panels go up fast . . . save time and money—trim and decoration can go on immediately.

**THREE** . . . Broadest choice of color, texture and treatment is possible—Sweeping, unbroken surfaces may be had—joints concealed and "welded" with Perf-A-Tape\* "joint system" or made a part of the decoration with "Panel-wall" method. The ivory surface takes any form of decoration or

the panels may be purchased already finished in color or woodgrain effects.

Established through twenty-five years of use, improved with an eye to the future . . . research and development have made Sheetrock lighter, stronger, and provided many edge-treatments, thicknesses, sizes and types adaptable to every modern use.

Always stepping ahead . . . living up to the finest building traditions, providing fire protection, adaptability and enduring beauty—Sheetrock stands alone today as the best known and most widely used gypsum wallboard in the world.

\*Trademarks Reg. U. S. Pat. Off.



**UNITED STATES GYPSUM**

300 WEST ADAMS STREET, CHICAGO, ILLINOIS

*This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials*

GYPSUM WALLBOARD • SHEATHING • LATH • PLASTER

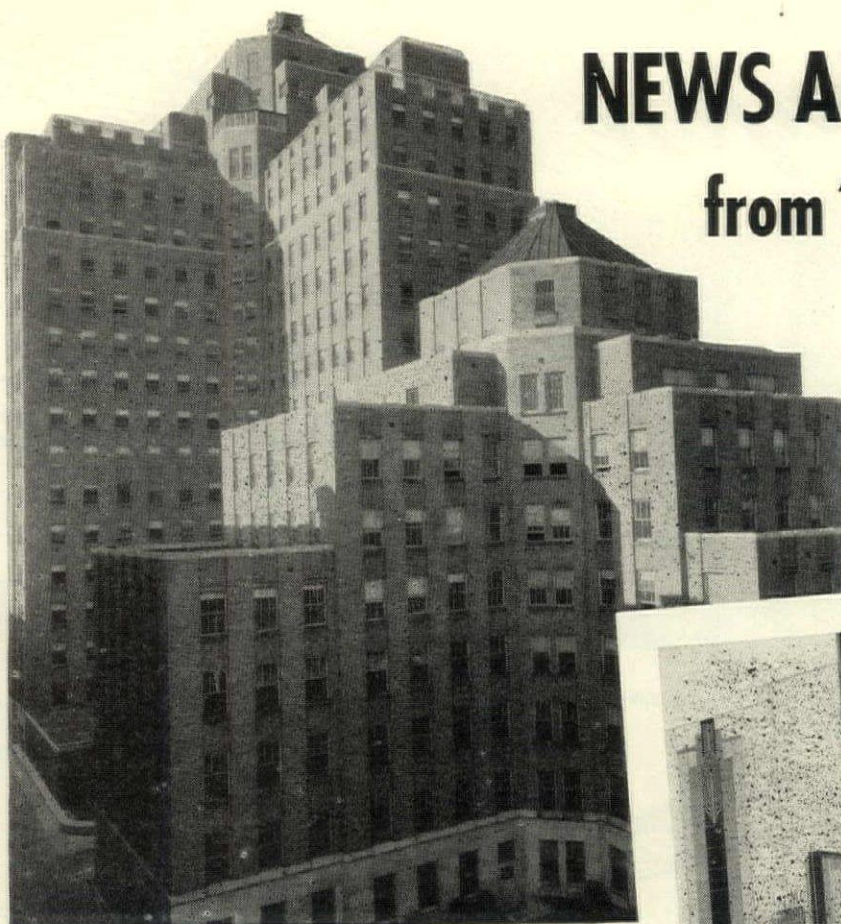
### FIREPROOF GYPSUM

The World's most widely used Mineral for building Fire-Sealed Walls and Ceilings

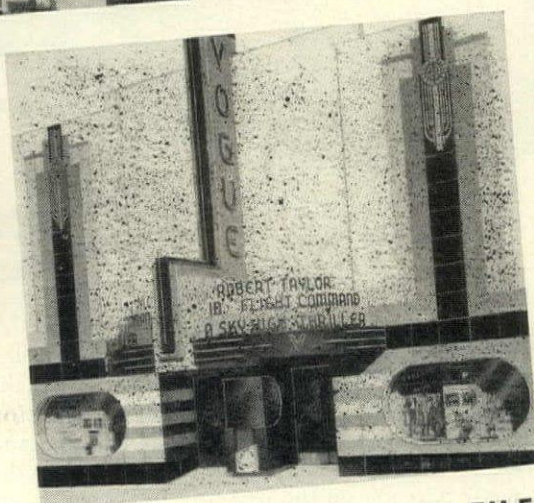


# NEWS ABOUT GLASS

## from "Pittsburgh"

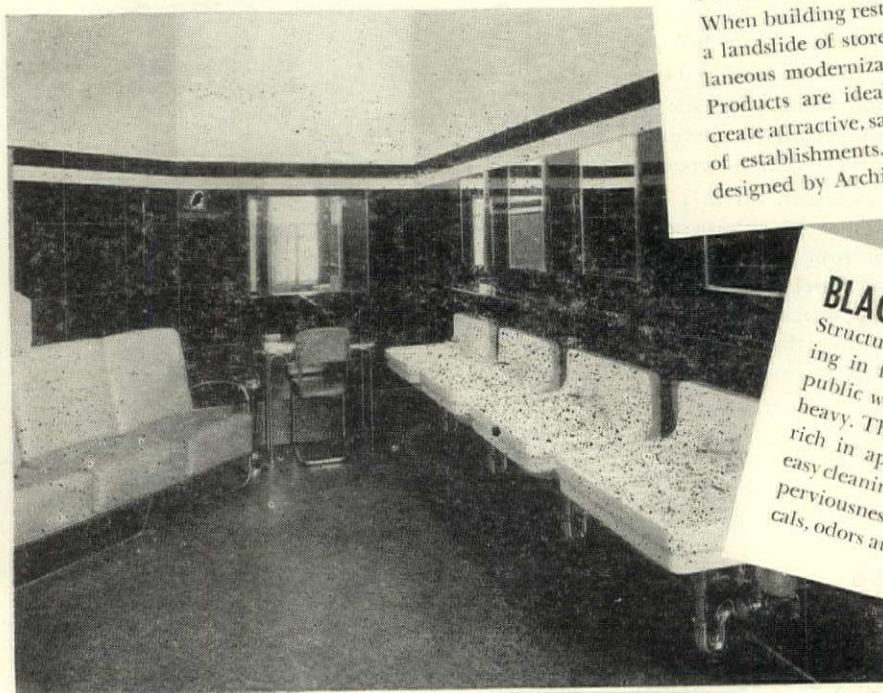


**FENESTRATION** becomes increasingly important in building design as the trend toward larger window areas continues. Many architects make sure of quality glazing by specifying Pennvernon Window Glass. This is the handsome, Pennvernon-glazed hospital of the Medical College of Virginia, in Richmond. Architects: Baskerville & Son.



### FOR YOUR STORE FRONT FILE.

When building restrictions are lifted, experts expect a landslide of store, theatre, restaurant and miscellaneous modernization projects. Pittco Store Front Products are ideally suited to help the architect create attractive, sales-winning exteriors for all kinds of establishments. This Pittco Theatre Front was designed by Architect L. P. Larson.



### BLACK WALLS

Structural Glass seem to be gaining in favor . . . particularly in public washrooms where traffic is heavy. The black, polished glass is rich in appearance, yet provides easy cleaning, permanence, and imperviousness to moisture, chemicals, odors and pencil marks.

PITTSBURGH PLATE GLASS COMPANY • PITTSBURGH, PA.

*"PITTSBURGH" stands for Quality Glass and Paint*



*a glimpse into the*

**FUTURE**

*yesterday*

*today*

IT IS a far cry from the bathroom of the '90s to the convenient charm and practical efficiency of the bathroom of pre-Pearl Harbor days. But the question today is "What about the future?" What will Mr. and Mrs. America want in plumbing and heating when the war is won? Already on the drawing boards of many of America's architects, homes of the future are taking shape. To aid architects in their planning, Crane is conducting a broad program to determine the desires and preferences of those who intend to build homes when the war is won.

So extensive is this investigation—so broad in scope that it covers every state in the Union—cities, towns and villages—and reaches families in every income group.

It is too early to draw any conclusion on this investigation, but of this architects may be certain: the Crane line of the future will continue to reflect the same high quality in materials and workmanship, the same advance in design and construction as in the past. And above all, it will be designed to meet the established preference expressed by thousands of home owners.

If you would like a copy of the colorful booklet and questionnaire being widely distributed to future home owners, mail the coupon below.

*tomorrow*

BATHROOMS,  
KITCHENS AND HEATING  
AFTER "V" DAY

by Crane

**CRANE**

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVENUE, CHICAGO

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NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

CRANE CO.  
836 S. Michigan Ave., Chicago, Ill.

AF 10-48

Please send me copy of booklet "V" Day and questionnaire.

Name.....

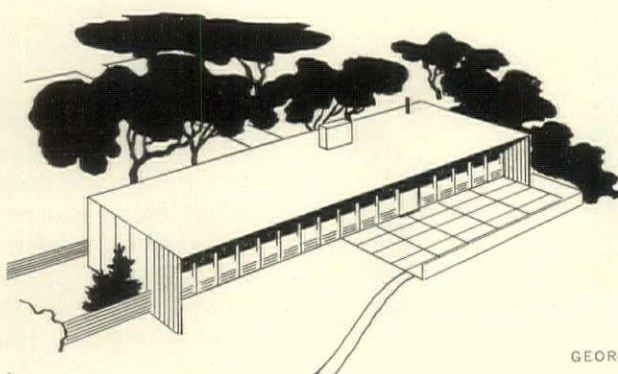
Address.....

City.....State.....



# the future

began nearly 10 years ago for Green's



GEORGE FRED KECK, ARCHITECT

## pioneers in prefabrication

Look for the name Green's among the illustrious labels on Tomorrow's "packaged" homes! One of the largest concerns of its kind in the Middle West, Green's is a famous pioneer in ready-built structures. Its outstanding success with prefabrication dates back to 1933, when it collaborated with the Forest Products Laboratories of the United States

Department of Agriculture at the University of Wisconsin. Since then it has steadily developed and improved prefabrication methods. . . . Its experience, techniques, and facilities will provide exciting postwar potentials—both for the individual and for the developer of large-scale residential projects. . . . Your inquiries are cordially invited.



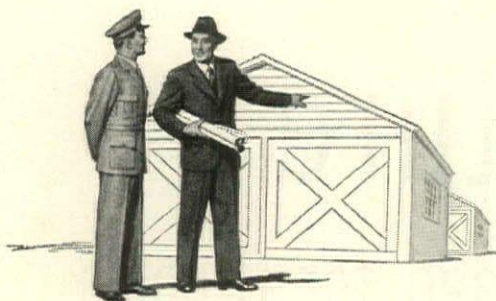
Green's Ready-Built Homes

1221 Eighteenth Avenue

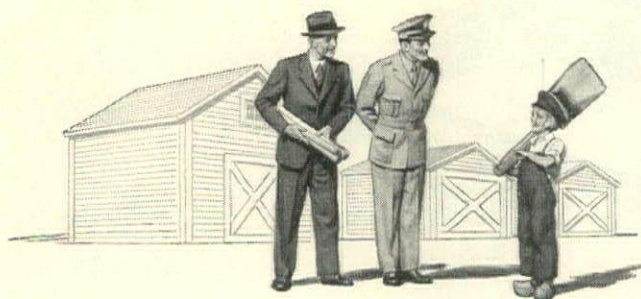
Rockford, Illinois



## An Architect Shows his Paintriotism...



1 "Now that the buildings are *up*, Captain, the next job is seeing that they're painted to *last*. When wooden structures are built as fast as these, it's more important than ever to keep the weather out. Only a mighty good paint will see 'em through..."



2 "The Dutch Boy reporting for duty, Sir. My weather-fighting record shows I'm the man for this job. Paint made from my pure white lead is an outer defense that doesn't crack and scale under the attacks of the elements. And you can use it on all the concrete, stucco, brick, plaster and wallboard around camp as well as on wood..."

3 "Remember my White Lead ancestors brought American property safely through the first wars we ever fought. And I'm a chip off the old block—100% pure. Of course I've been 'stepped up' in whiteness, body and hiding power. And that's not all..."



4 "Now my pure white lead also comes in a *new* form—ready-to-use Dutch Boy Paint. And comes two ways—as a special 'Exterior Primer' for extra sealing, hiding, and brightness—and as 'Outside White' for extra-durable finishing coat and general painting. Together they set a standard for two-coat protection and whiteness—even on new wood.

"And another reason I'm 'First choice for making things *Last*' is that *there's no shortage of White Lead*—no retreat from my famous Dutch Boy quality."



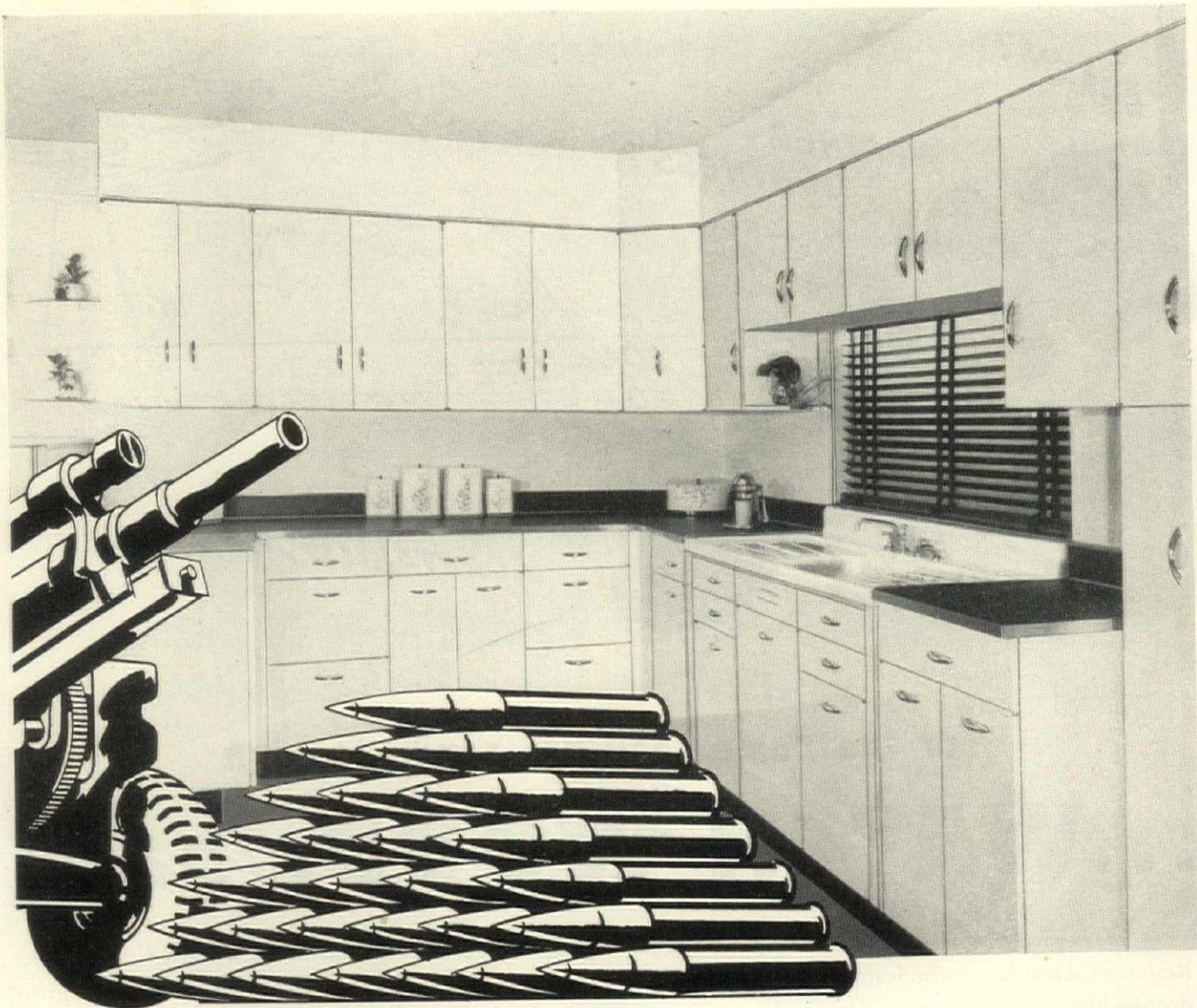
PASTE OR PAINT

Specify

**DUTCH BOY PURE WHITE LEAD**

NATIONAL LEAD COMPANY New York, Buffalo, Chicago, Cincinnati, Cleveland, St. Louis, San Francisco, Boston (National-Boston Lead Co.) Pittsburgh (National Lead & Oil Co. of Penna.), Philadelphia (John T. Lewis & Bros. Co.).





## WE'VE GOT THE RANGE

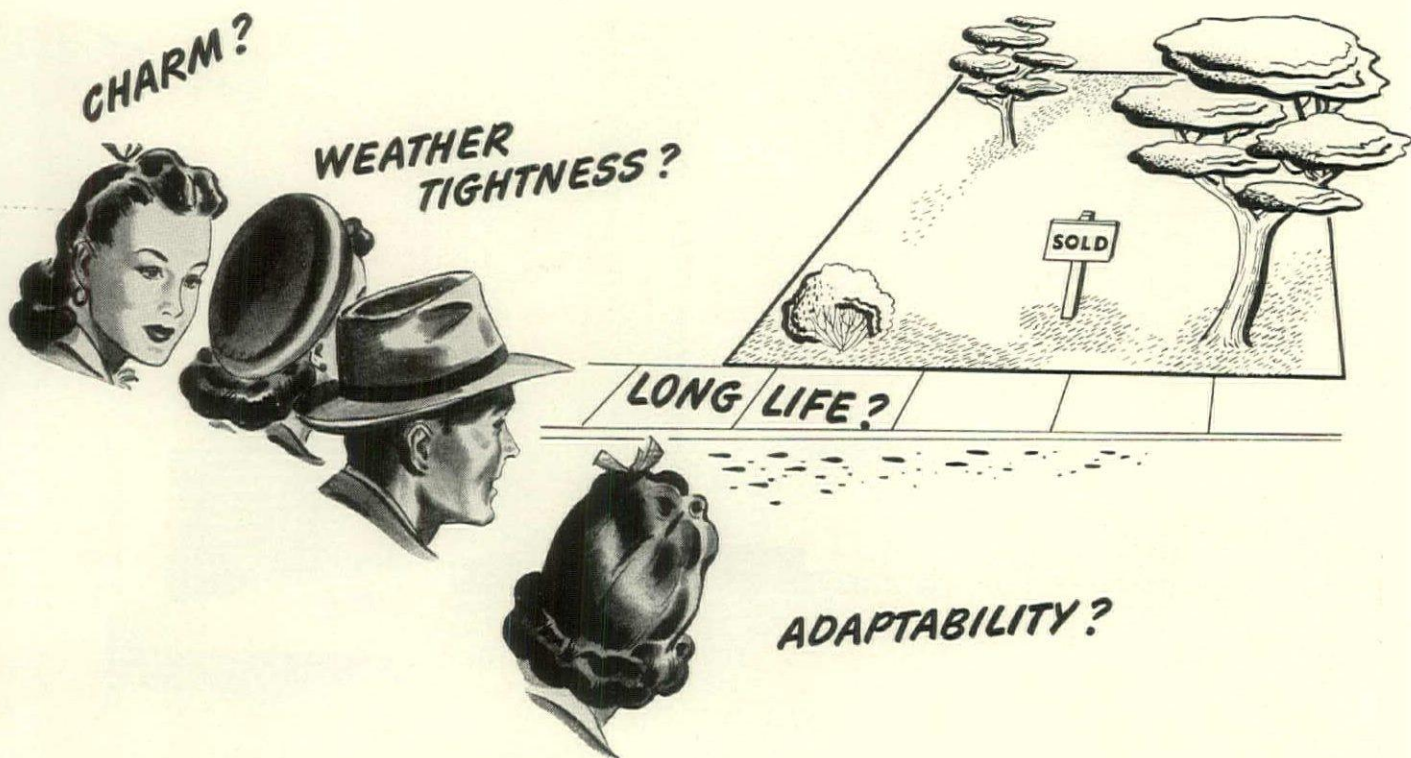
Not the kind that goes in the kitchen — we didn't make *those* even in peace times. No, the range we're talking about is the distance to the nearest Axis outpost from the muzzle of a U. S. howitzer.

Today Briggs men make cartridge cases of *steel* for these guns — do it as well as they once made model kitchen and bathroom fixtures. When folks can buy such things again, the best will proudly display the name of Briggs.

**BRIGGS** *Beautyware*  
PLUMBING FIXTURES

BRIGGS MANUFACTURING COMPANY • DETROIT





For the home they are ready to plan

# ...WATCH WOODwork!

They know what they want—these homeowners-to-be. Results of actual surveys indicate that they have formed definite ideas on their homes of tomorrow.

Many of those wants will be met by wood, at once the most familiar and most modern of building materials. And here's why doors, frames and windows of Ponderosa Pine will prove most acceptable.

**ADAPTABILITY**—Windows, properly placed or grouped, can make any room seem larger. Stock windows of Ponderosa Pine are offered in a great variety of styles and sizes, for any architectural style.

**WEATHER-TIGHTNESS**—Tomorrow's windows *must* be weather-tight. Ponderosa Pine stock windows, with their natural insulating qualities, are precision-built for a better fit . . . easily weather-stripped.

**LONG LIFE**—Always a durable building material, wood is now longer-lasting than ever, when it has been given toxic treatment. What's more, Ponderosa Pine takes paint easily—and *holds* it.

**CHARM**—For beauty in architectural detail, wood stands second to none. Its surface texture has not been successfully imitated. People will want the beauty and charm of wood in their postwar homes.



Send for your free copy! This book, "The New Open House," is a storehouse of ideas for postwar housing. It shows how—and why—Ponderosa Pine meets the needs of tomorrow. Mail the coupon for your free copy!



PONDEROSA PINE WOODWORK  
Dept. YAF-10, 111 W. Washington Street  
Chicago 2, Illinois

Please send me a free copy of "Open House."

Name.....

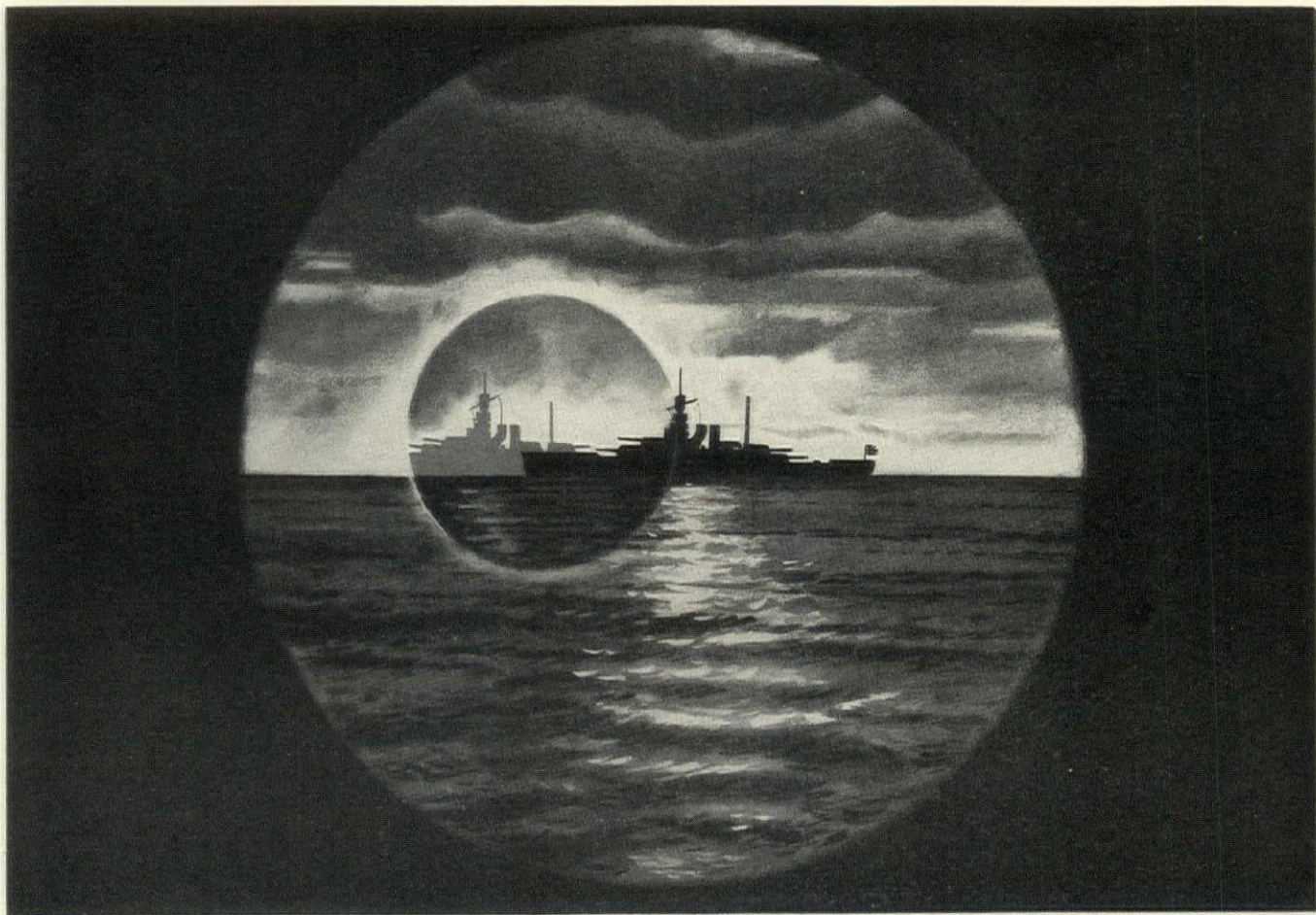
Address.....

City..... State.....

**Ponderosa Pine**  
**WOODWORK**

THE BEST IS YOURS . . . WITH PINE





## How a drop of water may help the Axis

THE amount of moisture in the air in an optical shop may determine whether an Axis ship is sunk or whether it eludes an American warship. One single drop may prevent the destruction of an enemy vessel.

The abrasive used to grind the delicate lenses of naval range finders soaks up moisture like a sponge. If the air in the optical shop is too humid, the abrasive becomes a saboteur. It unites with moisture to scratch, distort, and ruin the lens. A hairline off balance may mean a miss of a quarter mile.

Inspection weeds out most of the faulty pieces, but

dry air is the best inspector. It prevents rejects and steps up all-important production.

Naval requirements set 30% relative humidity as a moisture ceiling. Skilled Trane Air Engineers have translated these requirements into weather battle plans, from which have been produced Trane Air Conditioning Equipment to exactly meet the requirements of the job.

By training on our enemies the guns of our ally, the weather, the drop of water that might prevent a perfect aim is safely disposed of in the drain pan of a Trane Climate Changer.



# TRANE

AIR®

THE TRANE COMPANY LA CROSSE, WISCONSIN  
 TRANE COMPANY OF CANADA, LTD., TORONTO  
 AIR CONDITIONING • HEAT TRANSFER • AIR HANDLING EQUIPMENT





## Bring the outdoors inside with **DAYLIGHT ENGINEERING**

What features do postwar home builders want in their homes? Next to the top in a long list of wants, a recent study revealed, are larger windows and more natural light indoors.

The answer to this desire is found in *daylight engineering*, a new development that promises to revolutionize building design.

Through daylight engineering cramped rooms become spacious in feeling... dark and dreary interiors brighten and cheer up. It's accomplished by using large areas of transparent glass on outside walls and translucent or

decorative glass on interior walls. Mirrors properly placed inside add to the atmosphere of light and spaciousness. Nature's own out of doors becomes a living room picture, and its welcome light is transmitted throughout the home.

Libbey-Owens-Ford Glass for windows, mirrors, wainscoting and work surfaces, and Blue Ridge Glass for partitions are available in a wide variety of types and colors. Opportunities for designing and building with glass are multiplied many times by this modern glass L·O·F now provides. Libbey-Owens-Ford Glass Company, 22103 Nicholas Building, Toledo 3, Ohio.



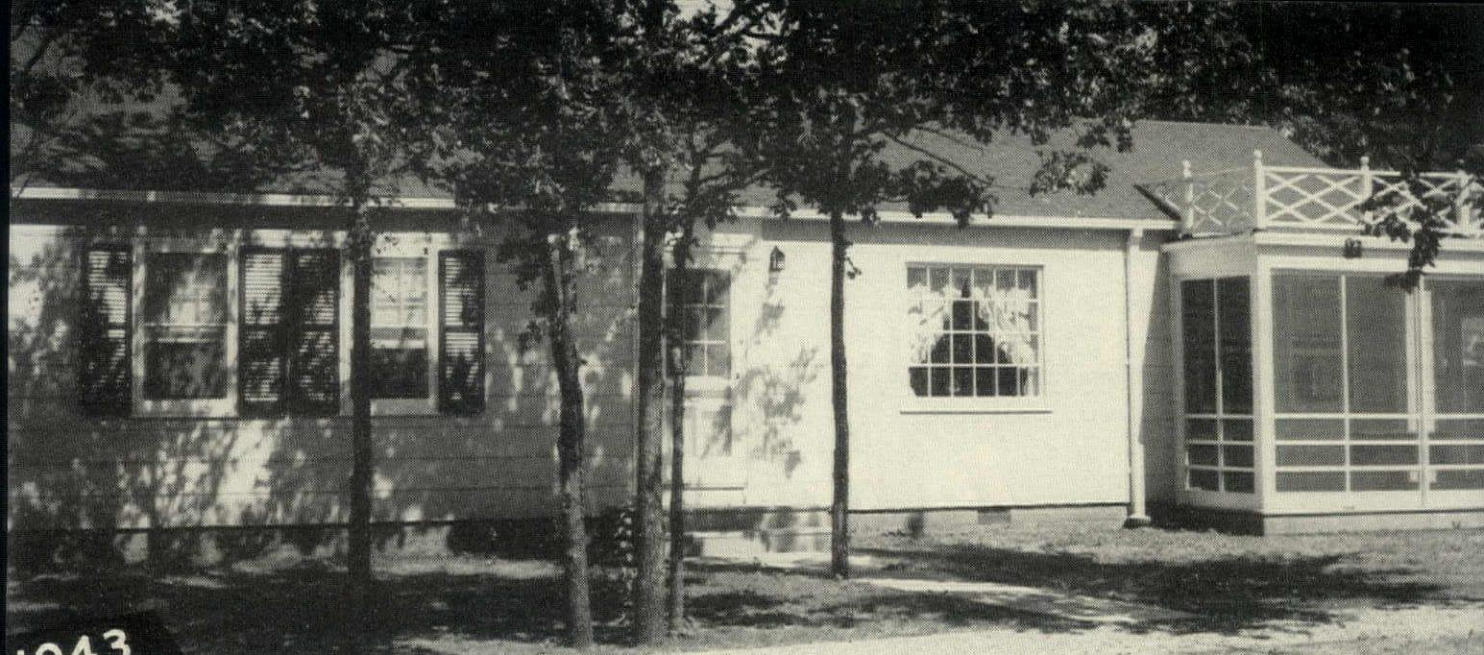
**LIBBEY • OWENS • FORD**

QUALITY *Flat Glass* PRODUCTS



1943

★ 1919



Southern Mill & Manufacturing Company is not a new-comer to the field of prefabrication, nor, is it a war-time project created in haste to secure business during this war housing boom. Because of our 24 years of experience in manufacturing dependable prefabricated houses, we have been commissioned to manufacture thousands of homes for government housing projects. This is only a short phase in the life of our company, and we will be ready, and better equipped than ever, when the war is over, to continue manufacturing proven-quality prefabricated homes for American families and American Industry.



# Prefabrication IS NOTHING NEW TO US..

IN 1919 the first Southern Mill & Manufacturing Company prefabricated house was designed and built for use in the oil industry. This structure had to be soundly designed, sturdily built . . . and economical to manufacture, to meet the exacting requirements needed to provide housing for the toughest service imaginable . . . the oil fields of the United States.

Since we first manufactured a prefabricated house twenty-five years ago, thousands have seen service in important oil fields throughout the world. Constant designing and experimenting was necessary in order to find the materials and the most efficient methods of manufacturing a house that was architecturally correct, and would stand-up under all kinds of adverse conditions. Out of these experiences was created our STURDYBILT, portable, prefabricated house, which is well known and accepted wherever permanent or portable dwellings are used.

Complete Housing Projects  
Planned, Fabricated and  
Erected by  
**ONE ORGANIZATION**

**[ SOUTHERN MILL & MANUFACTURING CO. ]**

Wichita, Kansas • TULSA, OKLAHOMA • Longview, Texas



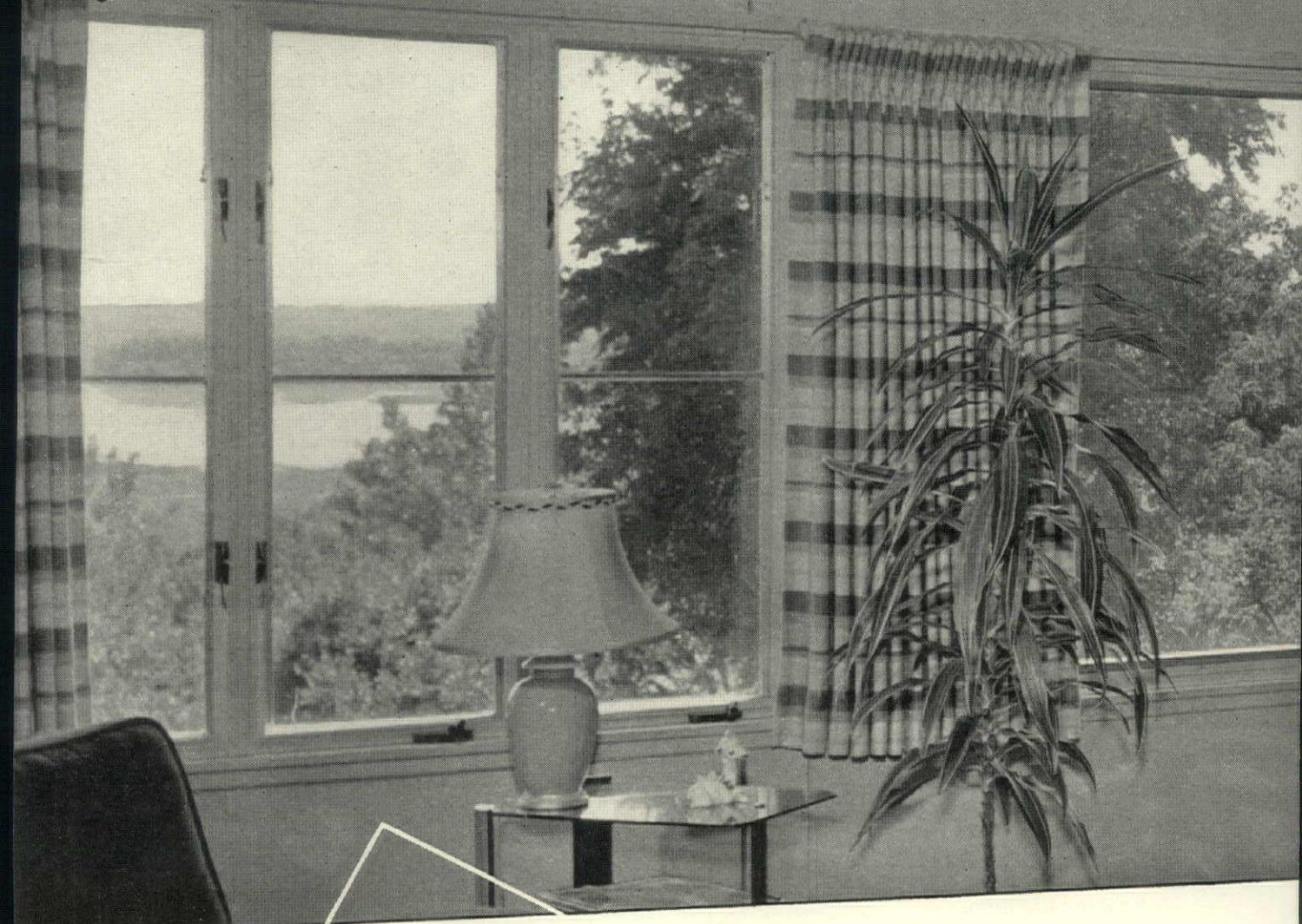
**... ALIVE FOR A LIFETIME**  
***in the 194X HOME***



**ONLY THE RICH CAN AFFORD POOR WINDOWS**



# Window Walls.



... with **ANDERSEN**

## **COMPLETE** **WOOD** **WINDOW UNITS**

Window walls in the 194X home will bring the beauty of the outdoors to the comfort of the indoors. Arranged in groups, these window-walls will frame for a lifetime the sun-drenched beauties of the outdoors. This wider use of wider windows will impose greater responsibilities upon the capacity of windows to act as a transparent barrier against the weather, protecting inside comfort while opening up new vistas. Here, then, is the function of windows in the 194X home—to be-

come an integral operating part of the entire structure, adaptable to any architectural design.

While designs may change . . . while innovations may develop . . . builders and architects alike may rely upon the unchanging quality and precision-built excellence of Andersen Complete Wood Window Units to meet the exacting requirements of the 194X home. Sold, as always, through regularly established millwork channels. For details, consult Sweet's Architectural catalog, or write:

*Andersen Corporation*

BAYPORT • MINNESOTA



# INCO NICKEL ALLOYS

**A family of strong, tough and corrosion-resistant metals for post-war architectural applications**

INCO Nickel Alloys are alloys high in Nickel produced by The International Nickel Company at its Huntington mills.

These metals are all strong, tough and corrosion-resistant. Additional properties possessed by the individual metals include heat resistance, good spring properties, heat treatability, non-magnetism, and free machinability.

Because of their useful combination of strength, corrosion resistance and other properties, INCO Nickel Alloys have been widely used in many fields, including the Building industry. Some specific applications in the latter are listed at the right.

At present, however, these metals are available only for military and naval requirements. Their toughness, strength and durability make INCO Nickel Alloys indispensable elements in the fight for freedom.

In the meantime INCO engineers will gladly assist you in selecting suitable, available materials as substitutes. Voluminous data compiled by the Development and Research Division will provide much useful information. You are also cordially invited to take advantage of personal consultation.

**THE INTERNATIONAL NICKEL COMPANY, INC.**  
**67 Wall Street, New York 5, N. Y.**

## *Building Applications for* **INCO NICKEL ALLOYS**

### **STRUCTURAL . . .**

Monel roofing sheet, tie wire, flashing, gutters, leaders, expansion joints, ornamental trim, screen cloth, nuts, bolts, screws and other accessories.

### **EQUIPMENT . . .**

#### *Refrigeration and Air Conditioning:*

Monel spray nozzles, brine tanks, compressor pump shafts.

#### *Food Service:*

Kitchen and cafeteria counters, tables, utensils, trays, steam tables, urns.

#### *Hospital:*

Sterilizers, therapeutic baths, counters, tables.

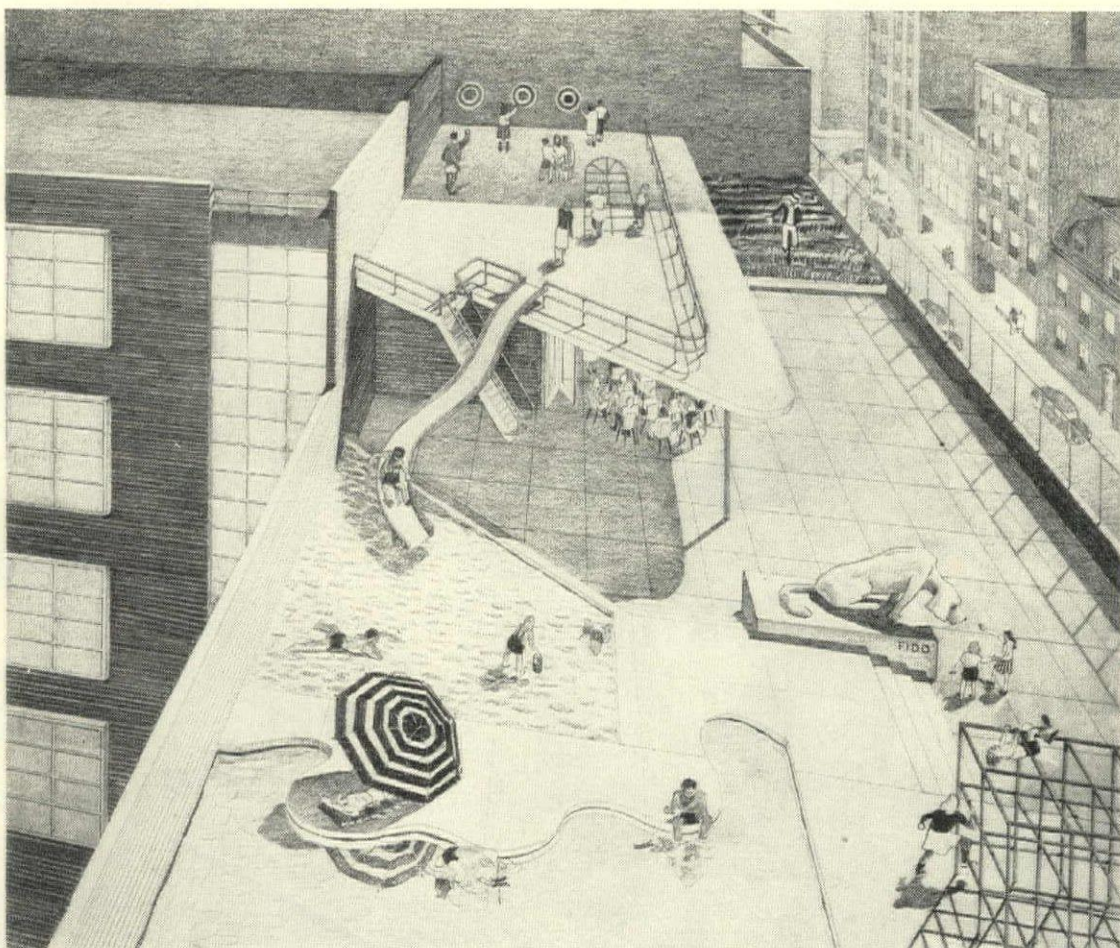
#### *Laundry:*

Monel washers, extractors, tables, trucks.

### **HEATING, PLUMBING, POWER . . .**

Monel and "K" Monel pump shafts and valves; Monel steam and fuel valve trim, gaskets; Monel, Inconel and Nickel for vital parts of control and indicating mechanisms; Monel flush valves and faucets; Monel hot water storage tanks.





## ELEMENTARY SCHOOL IN 194X

● Here is a lively suggestion and a practical one for broadening the facilities of the modern metropolitan school building—for bringing study and recreational activities out into the fresh air and sunlight in areas where space is limited.

By transferring the ground surface area to the top of the school structure, valuable play and study space has been provided outdoors and where the children are safe from harm. The roof development incorporates a variety of unusual features: exercise and game areas, a garden project, a wading pool and sand "beach," a shaded classroom—all separated by distances or levels which insure minimum interference. The street side is faced with a fence of transparent plastic.

In creating this original plan, the team of

J. Stanley Sharp, architect, and Jedd S. Reisner, designer, have added to a growing record of successful achievements which include prize-winning designs and, most recently, special research in prefabricated housing.

The utilization of hitherto neglected roof space is a definite trend in current architectural design. And Barrett Specification\* Roofs, because of their adaptability and dependability, are ideally suited to this advanced type of construction. In fact, Barrett Roofs are already part of many modern developments, such as the famous Rockefeller Center roof gardens. Standard for flat-roof construction since 1854, Barrett coal-tar pitch and felt roofs find increasing acceptance among the practical planners of our post-war world.

\*Trade-mark Reg. U. S. Pat. Off.]

### THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK

2800 So. Sacramento Ave.,  
Chicago 23, Ill.

Birmingham,  
Alabama







**We're going clean to Berlin this time**



U. S. Marine Photo

That's our objective, and that's what we'll do, so long as there is any fight left in that failing race of "super-men." Getting our boys off to a clean start, and keeping their things as clean and sanitary as possible, under battle conditions, is one of the war jobs that are keeping York Heat busy, night and day.

For the present, York is putting on the heat in a dozen different ways—in portable laundries and shower-units . . . in barracks, mess-rooms, and recreation-rooms . . . in special burner-units for Army bake-ovens . . . in airplane engine-heaters, and many others. When the remaining Axis partners have had all they can take,

and then some, York Oil Burners will again be available for industrial and domestic heating. All the advantages of the things learned in production for war, plus the practical features developed by York since they first pioneered in automatic oil heat years ago, are being combined now in the designs for the York Burner of tomorrow.

Right now, York is putting on the heat in another way, too. Future industrial and domestic prospects for the modern York Heat to come, are being created through consistent advertising in *American Home* . . . *Better Homes and Gardens* . . . *House and Garden* . . . *House Beautiful* . . . *Time* (Canada).



# **YORK HEAT**

**THOMAS SHIPLEY, INC., and its subsidiary, YORK OIL BURNER CO., YORK, PA.**



# LETTERS

(Continued from page 34)

rate of yield the loans will produce at the premiums paid.

Protective features are included in practically all other forms of fixed obligation securities, usually in the form of specific call dates and/or specific premiums at which such securities may be called for payment, and such features make it possible for the investor to determine just what rate of return he is purchasing at the market price at which the securities are offered.

It may be argued that the FHA loan, even if it is fully repaid a short time after it is made, will produce a yield in line with short term money rates, but even if this were true, and it would not necessarily be true in all cases, it is nonetheless important for the genuine investor to have an opportunity to decide whether it is best for his particular purpose to invest in short or long maturities, and certainly it is equally important, particularly for institutional investors, to know what rate of return they can count on. . . .

G. C. HOLMBERG, Vice President  
Northwestern Mutual Life Insurance Co.  
Minneapolis, Minn.

## Forum:

According to your very interesting survey of the FHA more than 72 per cent of the building industry opposes encouraging private builders to create rental housing. From the comments published, I conclude that the opposition is based on the fact that home ownership is better for the individual and the community. Obviously. But the meat industry does not oppose encouraging the sale of hamburger for the reason that sirloin steaks are better.

More than one-third of our population either cannot or will not purchase homes. This third constitutes the largest postwar housing market.

Most discussions of postwar planning rely on housing construction as one of the principal cushions against unemployment. And rightly so, for there is a tremendous unfilled need. But if private enterprise is not organized to translate that need into employment and housing, it seems reasonable that the government will step into the breach with a large public housing program. As organized to build individual houses for individual families, the building industry is not now able to provide low rent housing for that third of our population that either cannot or will not purchase homes. Nor can the industry as organized cope with urban rehabilitation housing problems. But, there is no

(Continued on page 156)

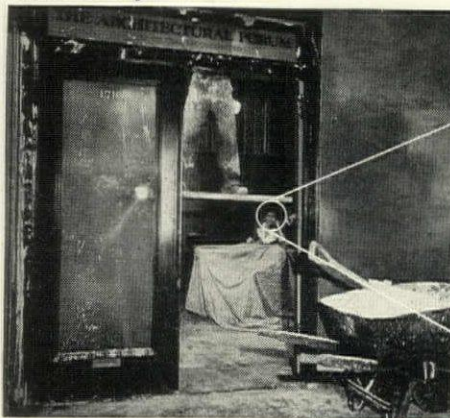
## A LETTER FROM THE PUBLISHER

Dear Reader:

Readers of THE FORUM who wandered into its offices last month were greeted with a sight familiar enough to architects and builders, but somehow weirdly at variance with what they had been exposed to in the pages of the magazine.

The articles on prefabrication, on dry construction, on new materials and equipment, and finally, the big 194X issues, had all built up a glowing, immaculate picture of brave new worlds to come, where feather-weight bathtubs snapped into place, walls opened and closed at the sound of their master's voice and whole kitchens arrived on the job still untouched by human hands. Then the plasterers arrived.

Myron Ehrenberg



Good times are just around . . .

On this occasion there wasn't much to be done—a couple of walls had to be shifted and the pre-Pearl Harbor doors you see were relocated. But the noise and turmoil that went on for a week should have been enough to take care of another Pentagon Building. As for the dust, no Dust Bowl ever put on a more convincing show. Under the twin onslaughts of noise and dust the Circulation Department made five strategic withdrawals, two of them in a single day, and by the end of the week its members were found in separate foxholes in remote corners. In the Editorial Department, layers of pure white powder hid sheets of undying prose turned out the day before. One Bulwer-Lytton fan thought it looked like the Fall of Pompeii all over again. But it was only the Building Industry at work in the year 1943. From where we sit, brushing plaster off our pants, 194X still looks pretty good.

Right in the center of the tumult (and the picture) was Alice O'Connor,

THE FORUM's receptionist extraordinary, who since the war began has been handling a half dozen jobs formerly performed by a number of mere males. She now reads copy and proof, drags stories out of recalcitrant writers when the printer's boy comes around, assembles the "Letters" material, gets the hard-to-answer questions, like "How many buildings in the Chicago Loop are more than 57 years old?"—and pinch-hits on anything else that happens to come along.

To FORUM visitors, Alice is our most successful link with the outside world: a storehouse of information on building and the latest shows on Broadway, an affable hostess to those who occasionally have to



O'Connor

wait, a past master in the art of soothing irate subscribers.

Brightest jewel in the growing O'Connor legend hinges on her refusal to be awed by the great, near-great and notorious. Rumor has it that several years ago, when she presided at the reception desk on the 33rd floor of the Time & Life Building, an attractive, youngish gentleman got off the elevator and said "I am Wendell Willkie and would like to see Mr. . . ." "Yes, Mr. Willkie," replied our unruffled heroine, "and what did you wish to see him about?"

All of which is a roundabout way of suggesting that you join the ever-lengthening queue of Building men who have adopted the practice of visiting THE FORUM when they come to New York: the editors are ready to swap news and information whenever you are. It's very simple: come to 19 West 44th Street, turn left when you get to the 17th floor, and Miss O'Connor will take care of the rest. H.M.





*Stoefflet & Tillotson, Philadelphia, Builders*

## YES, MRS. BENEDICT, YOUR WAR HOME IS COZY AND COMFORTABLE

**T**HIS is the living room in the home of Mrs. Lauren Benedict, Bristol Terrace, Bristol, Pennsylvania, as she arranged and decorated it.

Although Bristol Terrace was built to provide temporary housing for war workers, Strong-Bilt Panels have provided beautiful enduring interiors *within* the low-cost specifications of the Federal Public Housing Authority.

Full-wall size panels, surfaced and pre-sized at the factory, plus a method of speedy, low-cost application, made it possible here—as in scores of projects from

coast to coast, involving thousands of housing units.

In the same way, Strong-Bilt Panels will make a big contribution to the beauty and utility of postwar homes, both conventionally built and prefabricated. *Dry-built full-wall construction* with Strong-Bilt Panels produces *crackproof* walls with efficient insulating value.

For booklets which will be helpful in utilizing Strong-Bilt Panels in your own postwar plans, write The Upson Company, Lockport, New York.

*Upson Quality Products Are Easily Identified By the Famous Blue-Center*



THE CRACKPROOF BEAUTY SURFACE  
WITH EFFICIENT INSULATING VALUE

### **An ill-housed worker is an inefficient worker**

*The unprecedented proportions of America's war program has demanded that war workers be properly housed.*

*FPHA has come to the rescue. It has provided in a hurry, adequate low-cost shelter for more than 2,000,000 people.*



A panegyric and a confession (?) . . . An architect's reaction to *The Fountainhead* . . . Private Burtin reports . . . Comments on the FHA Survey

## SOMETHING

Forum:

I recently wrote to the *Encyclopaedia Britannica's* research bureau for a report on city and town planning and I thought you would be interested in knowing that the bulk of their report was taken from "Urban Objectives" published in *THE ARCHITECTURAL FORUM*, December 1942.

Of course, they give some other data and a good bibliography. But ain't that something?

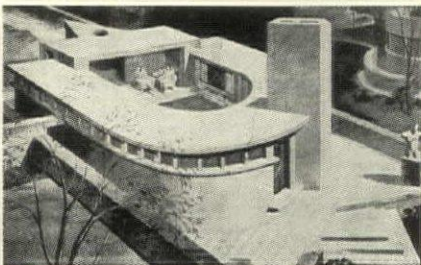
LOUIS E. McALLISTER, *Architect*  
Philadelphia, Pa.

## LEG ART?

Forum:

We quote from page 4 of your August issue:

"Enlightened advertisers like Revere, Celotex, Monsanto Plastics, and U. S. Gypsum have produced designs of practical value. They have done a magnificent job. Beyond this small progressive elite, other advertisers, who unexpectedly rallied around modern design, have largely failed to grasp the



Timken postwar house

implications of planning. To them, by and large, modern design has merely been a fashionable substitute for leg art."

Move over, *Police Gazette*. You have a new bed partner.

R. M. MARBERRY  
*Advertising Manager*  
Timken Silent Automatic Division  
Detroit, Mich.

## FUTILITARIAN FOUNTAIN

Forum:

Permit me to express my appreciation of the devastating review, in your August number, of that so-called architectural novel "*The Fountainhead*." Ever since the publishers had the impertinence to send me (and the entire

A.I.A. roster) the "blurb" on this book I have been searching the periodicals for just such a review as yours.

Architects in general are tone-deaf in matters of literature and are defenseless against such onslaughts. Because they recognize no similarity between the events and characters depicted and their own surroundings they dismiss the entire thing as preposterous. The public however, being unaware of what transpires in architectural life, cannot exercise such judgment. Hence your review should be given wider circulation. Couldn't it be republished in *Time*?

I was hoping this war would put an end to the "Futilitarian" school of novelists—and I believe it will (they did more to promote our lack of preparation and the general world unrest than a dozen Versailles pacts). But evidently Miss Rand had been mulling over this one for years and had to get it out of her system.

In the school of literature that gave us Hemingway, "*Appointment in Samara*," "*The Postman Always Rings Twice*" and "*I Can Get It For You Wholesale*," "*The Fountainhead*" will rank just about zero.

ROI L. MORIN, *Architect*  
Portland, Ore.

## WHERE THERE'S A WILL . . .

Forum:

. . . Right after I was inducted into the Army (Aug. 4) I spent almost two weeks in Camp Upton to do a job there illustrating a classification bulletin. I was shipped to Camp Lee to go through the six week basic training of the Quartermaster Corps. Condensed training of this kind is tough. I slowly feel like a professional soldier, which means that most of the daily tasks can be done somewhat quicker than on the day before. Sometimes I have to pinch myself in order to remember which part of life was real—before Aug. 4 or after. The routine starts at 5:30 in the morning and usually doesn't stop before 10:30 or 11:00 p.m., and when one thinks everything is over, a night lecture starts somewhere in the woods, explaining scouting and working in teams at night, finding a way according to time and stars, by signs only. You will readily see that this is somewhat different from the work I did for you

in earlier years. The only similarity lies probably in the fact that both periods did and do ask for strict application of common sense and logic . . ."

WILL BURTIN

Camp Lee, Va.

Will Burtin was responsible for a great many interesting layout jobs for *THE FORUM*, most notably the *Design Decade* (October 1940) issue. The cover of this issue won the 1941 Art Directors Club medal.—Ed.

## "SPOTLIGHT ON FHA"

Forum:

I have just completed the reading of your article entitled "Spotlight on FHA." . . . I was particularly impressed by the large majority of those replying to your questionnaire who desired not only continuance of FHA but liberalization of its terms. Like the drug addict these people crave the stimulant and call for larger doses. Also like the drug addict they disregard the ultimate effects of over-stimulation.

Some day you will make another survey preparatory to writing FHA's obituary. And as a result of that survey your inscription on the tombstone will probably read about like this:

"This poor fellow destroyed old values as he created new ones until finally he destroyed himself by the speed of his own creations."

FRANK WOLFF, *President*  
W. K. Ewing Co., Inc.  
San Antonio, Texas

Forum:

. . . The survey, which I have read with a great deal of interest, covers a number of points in connection with which there appears to be general agreement, but reading it from the viewpoint of a purchaser of FHA loans, I was a little surprised to find no reference to one feature of FHA loans which, from a purchaser's viewpoint, is not satisfactory.

FHA loans, while made for varying periods up to 20 and 25 years, are payable at any time at the choice of the borrower, and many of them are being retired after they have run but a comparatively short time.

Since these loans are offered the investor at premiums over par by mortgage houses and brokers, it is impossible to determine in advance just what

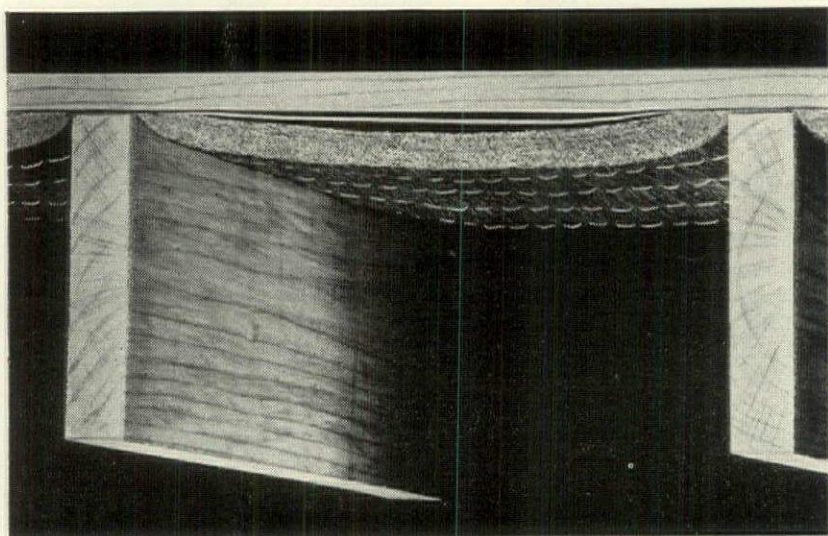
(Continued on page 36)



# Giant Size KIMSUL INSULATION

REG. U.S. & CAN. PAT. OFF.

**cuts cost... speeds up production  
in assembling prefabricated units**



**KIMSUL IN FLOOR** • Large picture above shows KIMSUL installed in floor. Notice how tightly the blanket *compresses* under flooring at joists... how completely it *expands* to full thickness on both sides of the compressed area. These are the *exclusive* features that make KIMSUL a "natural" for prefabricated construction.



**NO LOST MOTION** • Picture above shows how Giant Size KIMSUL blanket is expanded over floor joists in prefabricated section. Flooring is nailed right over the insulation. No lost time or effort with Giant Size KIMSUL.

\*KIMSUL (trade-mark) means Kimberly-Clark Insulation

IT'S certainly quick and easy work to insulate a prefabricated section with Giant Size KIMSUL\* insulation. Simply roll out KIMSUL like a rug... nail the flooring or sheathing or wall paneling right over the KIMSUL... and the job is done.

KIMSUL is not only quick and easy to install. Another feature is that it can't sag, shift, sift or pack down once it's properly in place. It has proved to be a time saver and a money saver wherever used. Still another KIMSUL advantage is the fact that here is the *only* insulation that is delivered *compressed* in handy, easy-to-handle rolls. The Giant Size KIMSUL blanket comes in widths of 4' and wider in some specifications, up to 250' long.

## Heat Stopper... Time Saver

KIMSUL is recognized as one of the most effective heat stoppers made. It has a thermal conductivity of .27 Btu/hr./sq.ft./deg. F/in. Furthermore, being compressed, it requires *only 1/5th* as much transportation, *only 1/5th* as much storage, *only 1/5th* as much handling. In addition, every KIMSUL fibre is treated to resist fire, dampness and mold. Mail the coupon below for book containing complete information.

KIMBERLY-CLARK CORPORATION  
Established 1872 Building Insulation Division  
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- ☐ Please have KIMSUL Representative call.  
☐ Send free copy of new, illustrated KIMSUL Book.

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**KIMSUL IS MANUFACTURED BY KIMBERLY-CLARK CORPORATION, NEENAH, WISCONSIN**



# ACHIEVEMENT— on 5 Vital Points!

It is our belief that we have achieved close to minimum costs in several types of sturdy **PREFABRICATED DEMOUNTABLE** housing in use by the U. S. Government and now especially adapted, by low cubic content, for shipment abroad to the fighting forces and to foreign governments.

← 1✓

Convertible housing at a per person cost of \$37.50 to as low as \$25.00 per person has been achieved through our intensive research, new methods, and

← 2✓

These new units have been outstandingly successful for War-Workers' Homes, housing In-migrant Farm Workers, Troop Barracks, Farm Security Administration, Coast Guard, Army and Navy Housing.

← 3✓

Erected in 6 minutes, without tools and highly demountable, Pemberton "All-Purpose" light-weight Standard Shelters of a new material are "convertible" to peacetime use. Several new units are "convertible" into high-grade post-war housing.

← 4✓

We believe also that this announcement marks a new era in low-cost, sturdy and adequate basic housing for the future.

The ultimate conversion of emergency war-housing into quality homes is a logical advance now made possible, since immediately required low-cost homes can be quickly and economically transformed into ample-size, permanent homes of real charm and distinction.

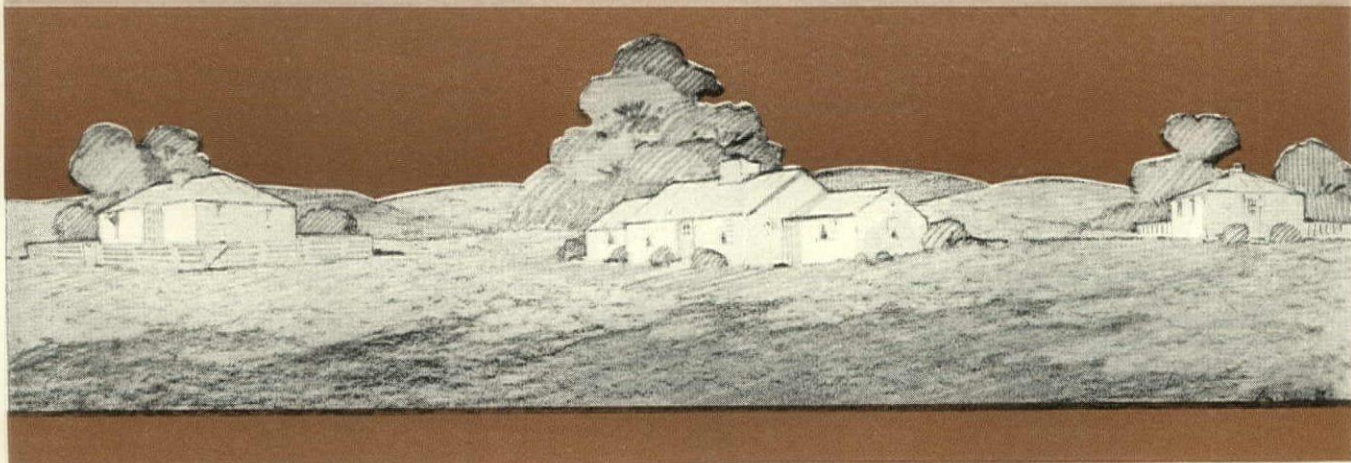
← 5✓

Send for Brochure PH-52

## PEMBERTON LUMBER & MILLWORK CORP.

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*Prefabricated-Demountable Industrial Buildings, Homes, Dormitories, Cantonment Barracks, Cafeterias, Field Offices, Administration Buildings, Hutments, Trusses, Sub-assemblies, etc.*





# "Engineering in Wood"

Today's *musts* in timber construction include blimp and airplane hangars, army depots, shipyards, cantonments, war plants of all kinds.

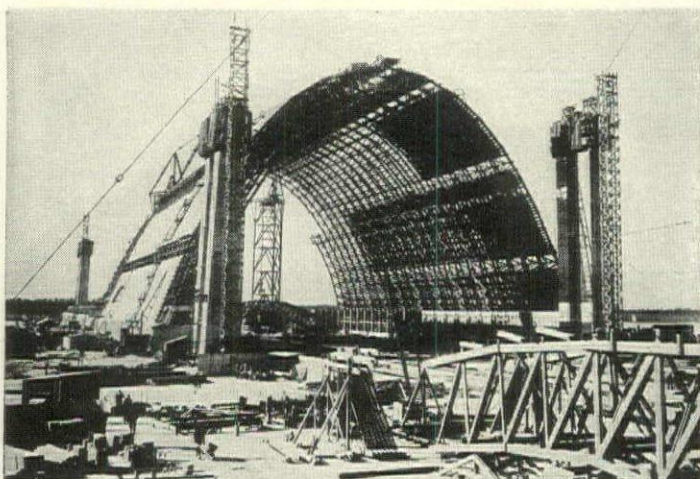
To this entire field Timber Structures, Inc. has helped bring *Engineering in Wood*, just as it did to plant construction before Pearl Harbor, just as it will do again for the postwar building certainties of industry.

*Engineering in Wood* is many things. Research, design, engineering, prefabrication, transportation, erection. All are part of Timber Structures service

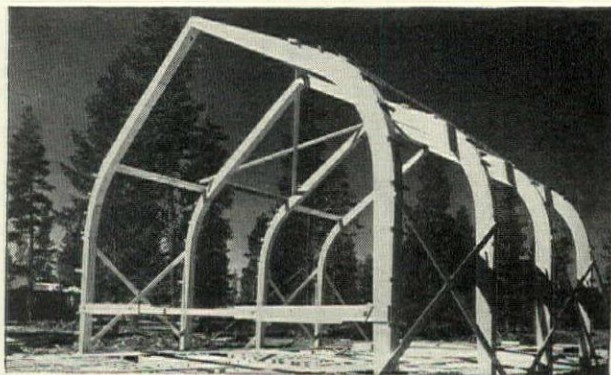
## TIMBER STRUCTURES INC. BUILDS FOR TODAY'S "MUSTS" ...PLANS FOR TOMORROW'S "CERTAINTIES"

to architects, plant management, engineers and contractors. All are responsible for the construction speed, economy, strength and permanence of roof trusses and other timber structures and items supplied by this organization.

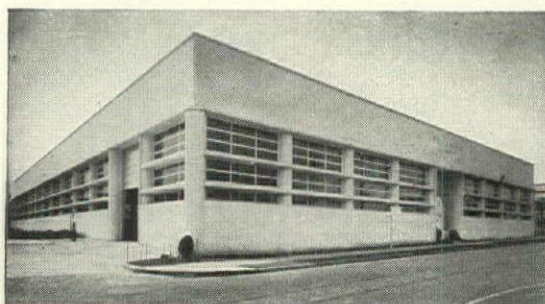
For today's *musts* and tomorrow's *certainties*, we are prepared to serve you in timber and other structural materials. Write or wire for any specific data on work under consideration. For informative literature on the jobs Timber Structures, Inc. has done, is doing, mail the coupon.



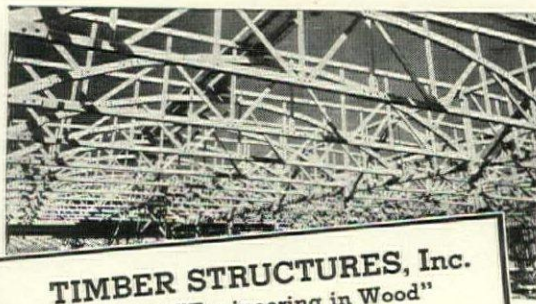
**WORLD'S LARGEST TIMBER STRUCTURE.** One of many similar blimp hangars for the Navy which Timber Structures, Inc. has fabricated and fire-proofed. 1000' long; 235' wide; 185' high. 2050 tons of steel were saved by Navy's use of modern timber design fabrication and treatment. TECO connectors and their use procedure as developed and made available by the Forest Products Laboratory and Timber Engineering Co., (subsidiary of National Lumber Manufacturers Association), helped greatly to make these structures economically possible in wood.



**CHAPEL.** Prophetic of tomorrow's church construction is this Regimental Army Chapel (one of many) using glued laminated arches fabricated and erected by Timber Structures, Inc. Simple, dignified beauty in architectural design is combined by Timber Structures, Inc. with modern building practice to provide chapels such as this for men in the service.



**WAREHOUSE, 200'x300'** for Woodbury and Co., Portland, Ore. Roof trusses for this modern building designed, fabricated and erected by Timber Structures, Inc. Architect: Richard Sundeleaf, Portland. Contractor: Wegman & Son, Portland. Miles K. Cooper, Portland, Structural Engineer.



**PLYWOOD PLANT,** Peninsula Plywood Corp., Port Angeles, Wash. 90-64' trusses were provided. Engineer: J. H. Stevenson. Contractor: A. S. Hainsworth Construction Co., Seattle.

**TIMBER**  
WARD MAYER  
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**TIMBER STRUCTURES, Inc.**  
Send Book "Engineering in Wood"

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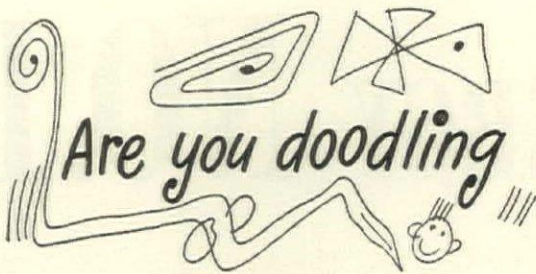
Type of building or business . .

If west of the Mississippi, send to Portland 8, Oregon. If east of the Mississippi, send to 535 Fifth Avenue, New York 17, N.Y.



## DOODLED IN 1556.

Agricola was the Renaissance Diesel who designed this air-conditioning engine. He waited and waited for some mine owner to recognize the need for it. But it never gave out the creaks and clumps, the hisses and groans that would have been music to his ears—because it never got built.



or planning for that  
building boom?

**N**OWADAYS a lot of builders are dreaming sweet dreams about tomorrow.

*Wired for sound, their dreams go like this:*

"Building Boom Coming—it can't miss."—"80% of our prewar plants are obsolete and need replacement."  
—"Industry is on the move, and needs new plants in new locations."  
—"Hundreds of new products are clamoring for plants in which they can be made."—

Maybe so.

But many a building boom has fizzled before—because need does not neces-

sarily mean demand. If it's an industrial building boom you want, you'll have to help set it off.

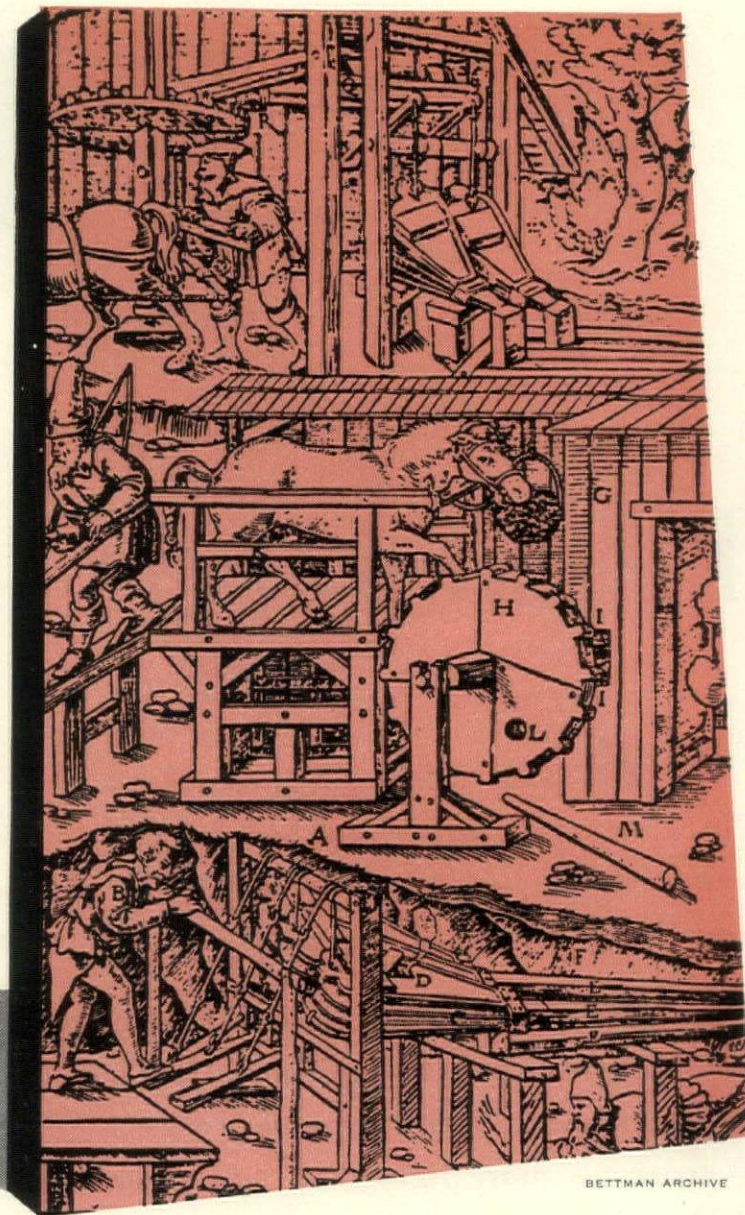
How? By showing executives that the building industry can now produce plants so much more efficient and economical that business simply can't afford not to build them.

And the most economical and effective way to tell your story is through the pages of *TIME*—the first-choice magazine of business executives, plant owners and managers—the magazine they

turn to for information to help them think ahead and plan ahead and see the shape of things to come...the magazine they believe in and vote their favorite over all the others they read\*.

*What's more, TIME is the magazine in which business and industry prefer to tell their own product stories!*

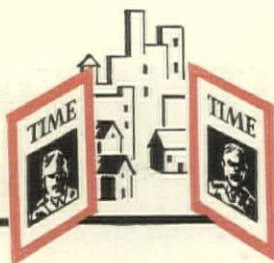
\*Among these people are executives and engineers, Government officials, mayors, bankers, architects, and 22 other groups of leaders—all of whom recently voted "*TIME* is America's most important magazine."



BETTMAN ARCHIVE

# TIME

THE GATEWAY



TO THE BUILDING MARKET





# PUBLIC ENERGY NO. 1

**BITUMINOUS** coal is America's No. 1 source of power and heat, so you can easily see how important it is to our successful conduct of the war.

You may be surprised to know that coal develops more power—pulls more trains—warms more homes—turns more wheels—generates more light than any other fuel, and does it at lower cost.

But the men who own and operate the mines are keenly aware of these facts—and of the responsibilities that go with them.

That is why, during the lean years of the thirties, they dug down in their pockets

to launch a modernization program. Thanks to that job, *more coal was produced in 1942 than ever before in history*, despite the loss of some 70,000 trained workers to the armed forces and other war plants.

*And again in the first 7 months of 1943, America's bituminous coal industry managed to beat all previous records for a like period.*

Make no mistake about it, the men who made these records are working shoulder to shoulder with all American industry, keenly aware of their obligations as citizens, as employers, and as suppliers of the fuel that is "public energy No. 1."

BACK THE ATTACK • WITH WAR BONDS

**BITUMINOUS COAL**  
*Institute*

60 East 42nd Street

New York 17, N.Y.



**COUNTY OF LONDON PLAN**, by J. H. Forshaw and Patrick Abercrombie. Macmillan & Co., Ltd., London. 188 pp., illustrated with photographs and maps. 10 x 12. 12/6.

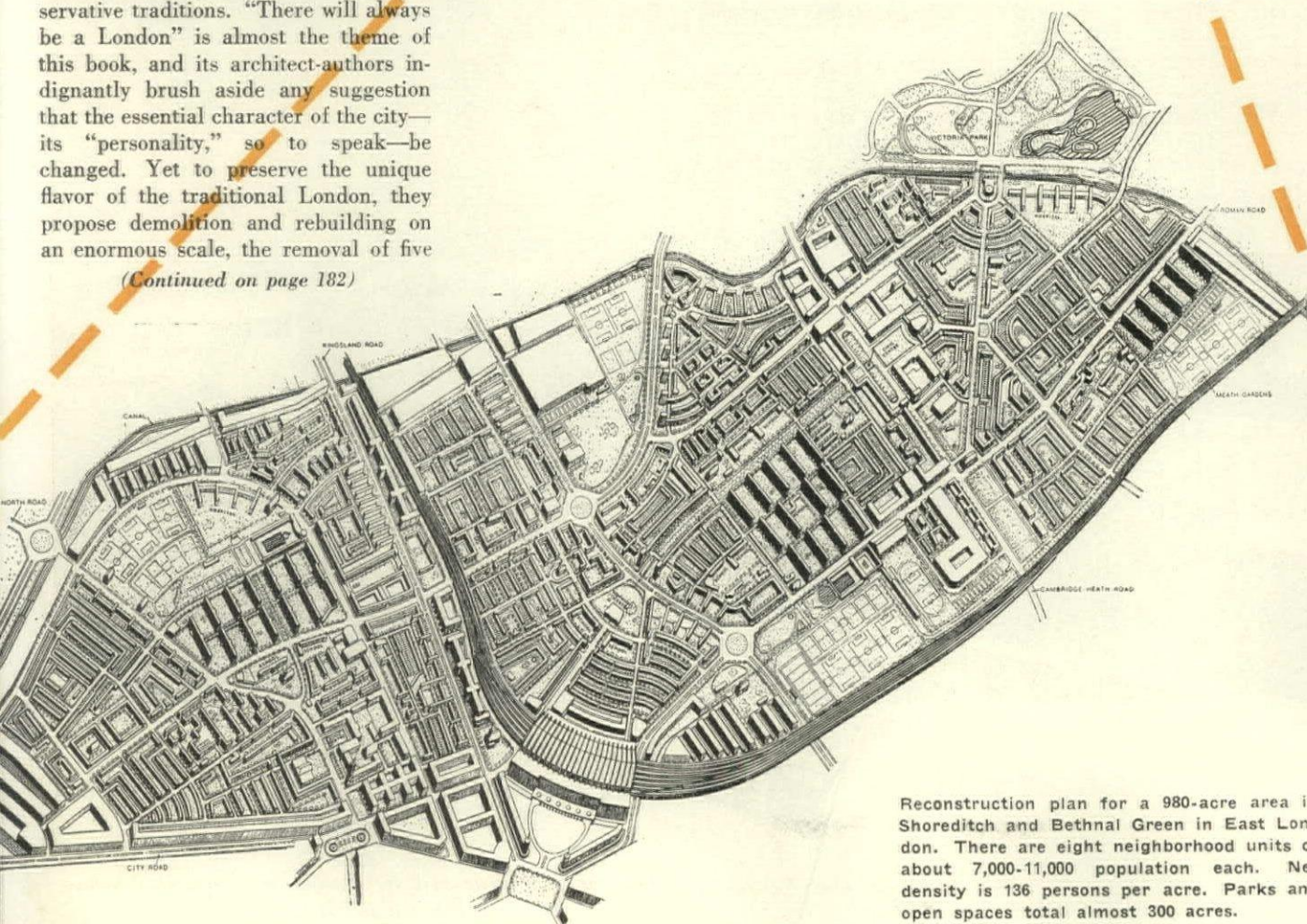
It is a curious reflection on the British character that London should be the first great city of the western world to have come out—during the war—with a real plan for its future development. The English have been far more deeply immersed in the war than we; they have suffered more and for a longer period, and their manpower reserves are more limited. Yet it is London, and not New York, Detroit or Los Angeles, which has completed the tremendous labor which must precede the physical job of rebuilding. Many have attributed this circumstance to the blitz: large areas in London have been demolished and there is a very real opportunity to keep them open, or rebuild them from scratch. Undoubtedly this is a factor, but most U. S. cities have plenty of vacant land, provided without benefit of bombs.

Another seemingly peculiarity of the English temperament is that the people are apparently willing to use the most radical measures to buttress their conservative traditions. "There will always be a London" is almost the theme of this book, and its architect-authors indignantly brush aside any suggestion that the essential character of the city—its "personality," so to speak—be changed. Yet to preserve the unique flavor of the traditional London, they propose demolition and rebuilding on an enormous scale, the removal of five

(Continued on page 182)



NOTE HOW SOCIAL MAP SUGGESTS BASIS FOR FUTURE ROAD NETWORK



Reconstruction plan for a 980-acre area in Shoreditch and Bethnal Green in East London. There are eight neighborhood units of about 7,000-11,000 population each. Net density is 136 persons per acre. Parks and open spaces total almost 300 acres.



# Specify modine

## CONVECTORS

### NOW...for Postwar Building

The entire output of Modine Convectors goes to the United States Navy and Merchant Marine *today...*

But *tomorrow...* just as before the war...

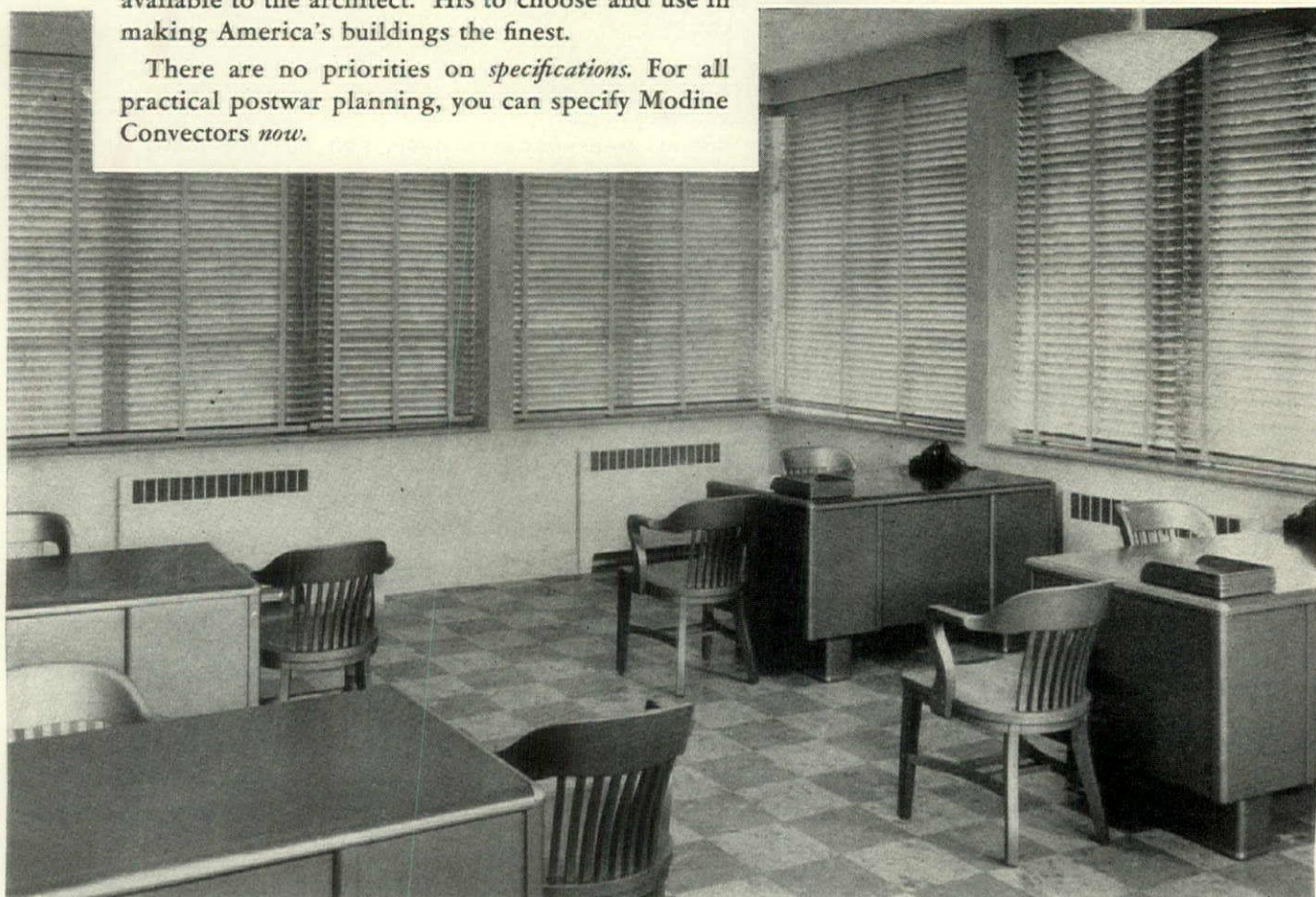
All the proven superiorities of Modine Copper Convector Heating...even temperatures, quick response to automatic control, natural air movement and smart, distinctive appearance...will again be available to the architect. His to choose and use in making America's buildings the finest.

There are no priorities on *specifications*. For all practical postwar planning, you can specify Modine Convectors *now*.



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Look in your phone book for Modine representative's name—  
"Where to Buy It" section.





## "Porcena"

**PORCELAIN ENAMEL TOILET COMPARTMENTS** possess the natural structural strength of steel, not one sheet, but two 16-gauge sheets securely bonded on opposite sides of dense insulating core, strengthened by porcelain enameling (four layers on each sheet) which provides a non-porous, flint-hard, glass-smooth surface that is positively impervious to odors, acids and moisture.

## HUNG FROM THE CEILING TOILET COMPARTMENT INSTALLATION

● When planning post-war buildings, use this arrangement for creating unusual toilet room environments. It is particularly appropriate for schools, institutions, public buildings, office buildings, hotels, clubs, theaters and other buildings where people gather to work or play.

A toilet compartment installation may make or mar a toilet room environment. Design and materials, as well as manner of installation, determine the degree in which toilet compartments enhance the interior of a toilet room. Sanymetal "Porcena" (porcelain enamel finish) Toilet Compartments impart dignity, refinement and cheerfulness, and elevate the toilet room into keeping with other appointments of the building.

Sanymetal "Porcena" Toilet Compartments for post-war buildings will be fabricated of the ageless and fadeless material—porcelain enamel. Porcelain enamel is a glass-hard, stainless material that always looks new, does not absorb odors, is moisture-proof and rust-proof, and resists the corroding nature of ordinary acids. The glistening porcelain enamel finish

can be wiped clean as easily as any glass-smooth surface, thereby insuring a high standard of sanitation.

Sanymetal Normandie Type Toilet Compartments, illustrated, as well as each of the other three types of Sanymetal Toilet Compartments, embody the results of over 28 years of specialized skill and experience in making over 60,000 toilet compartment installations. Ask the Sanymetal Representative in your city for further information about planning suitable toilet room environments for any type of building.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

*Complete design and construction details for Hung From The Ceiling Toilet Compartment Installations, as illustrated, may be obtained from the Sanymetal Representative in your city. Refer to Phone book, "Partitions" for his name or write direct. Use Sanymetal "Porcena" (porcelain enamel) Toilet Compartments in post-war buildings to be sure of strictly modern toilet room environments and to insure against obsolescence.*

THE SANYMETAL PRODUCTS CO., INC., 1687 Urbana Rd., Cleveland 12, Ohio

**Sanymetal**\* **TOILET COMPARTMENTS**  
and Office Partitions

\* Trade Mark Reg. U. S. Pat. Off.



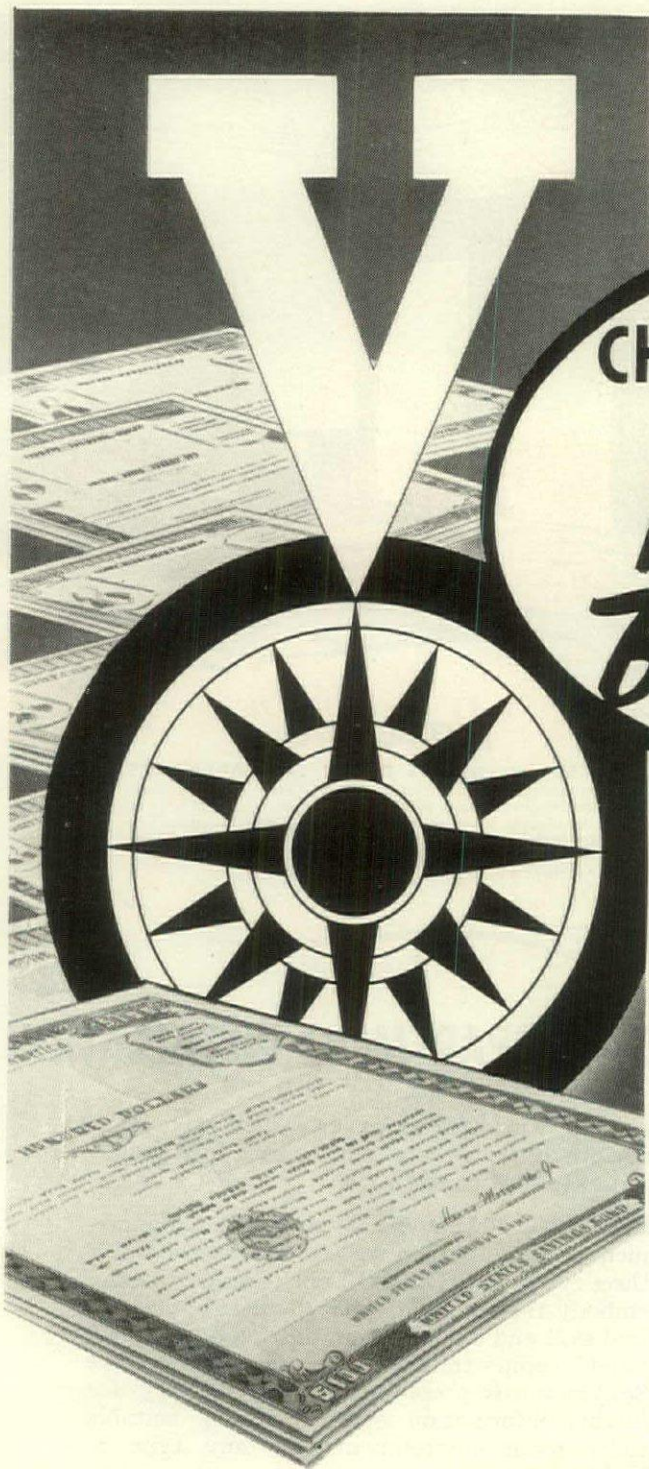


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FOR

**VICTORY**  
AND  
*Better Living*

WAR BONDS and *more War Bonds* are the shortest, surest road to Victory — and *better living*. The billions of dollars worth of War Bonds which millions of Americans are buying, throw our united power and weight back of America's fighting men. Every War Bond helps shorten our gigantic Global War — helps speed the day of Victory. Then War Bond dollars will become *better living dollars*. Because America's industrial might is geared to Victory — and *better living*. Williams Oil-O-Matic—precision builders of automatic heating, air conditioning and refrigeration for its more than twenty pre-war years, now builders of highest precision war materiel—exemplifies the skill and experience that will return to the service of the American home when Victory is won.



THE WAR BONDS YOU BUY TODAY  
ARE YOUR GUARANTEE OF A

*Better Tomorrow!*

"I am pleased to inform you that you have won for the second time the Army-Navy Production Award for meritorious services on the production front.

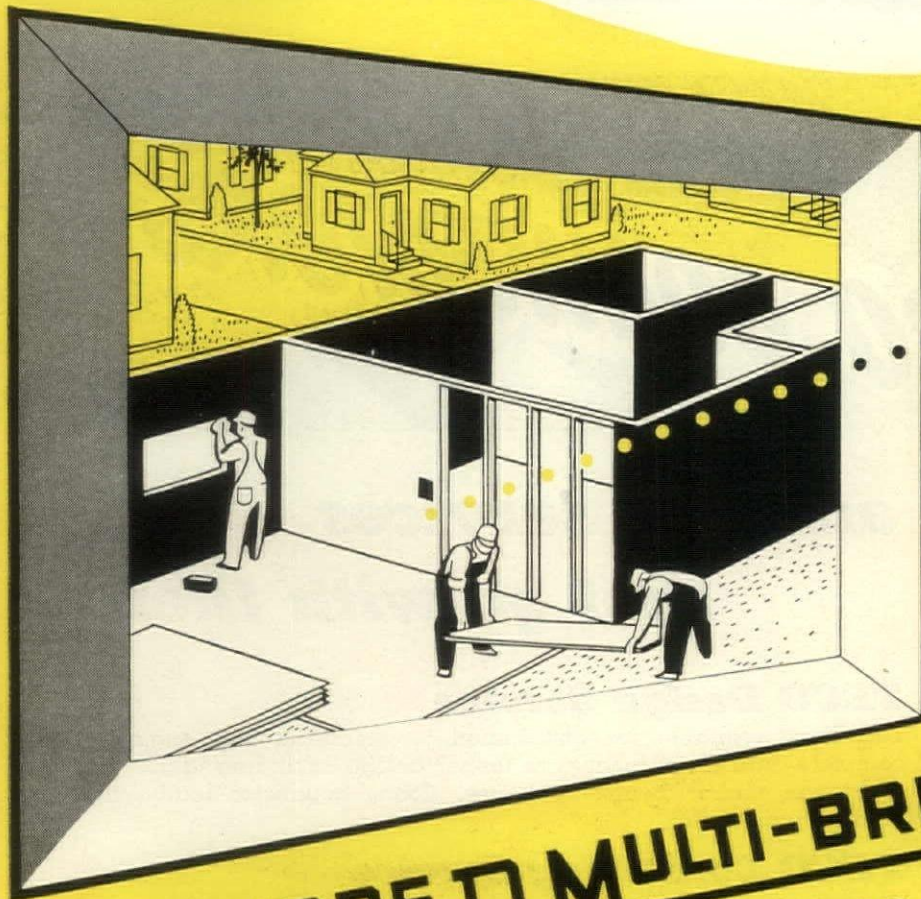
"The White Star which the renewal adds to your Army-Navy Production Award flag, is the symbol of appreciation from our Armed Forces for your continued and determined effort and patriotism."

(Signed) Robert P. Patterson  
Under Secretary of War

WILLIAMS  
**OIL-O-MATIC**  
HEATING

**WILLIAMS OIL-O-MATIC**  
**HEATING CORPORATION**  
BLOOMINGTON, ILLINOIS





# THE SQUARE D MULTI-BREAKER FITS INTO EVERY PICTURE OF MULTIPLE HOUSING

*large units—small units—prefabricated or otherwise*

**W**HETHER it's a small group of cottages or a planned community, complete from homes to schools, stores and churches, there is a Square D Multi-breaker installation to fit the picture . . . exactly.

The annoyance of changing fuses simply isn't in keeping with tomorrow's scheme of things—especially since Multi-breaker convenience and protection costs little more than the fusible equipment it replaces—often actually less.

Your nearby Square D Field Engineer will be glad to work with you in arriving at the best electrical specifications for any project you are planning.



Currently, every Multi-breaker we produce is assigned to wartime service. But the same features which make it so valuable to the war effort, earn it a place in the homes which will be built in the future.

The Multi-breaker eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shockproof lever restores current. There are no delays—nothing to replace.



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**and the services  
that go with them**

## **TECO Design Service**

Teco has available for distribution to architects and engineers complete data on all phases of timber design, including tables and charts on timber beams, columns, floors, connector loads, bolt loads, stresses, etc.

## **TECO Consulting Service**

Teco maintains a staff of engineers to consult with architects and engineers on their design problems. Teco Connector distributors and fabricators in all parts of the country also render helpful services to architects and engineers.

## **TECO Typical Design Service**

"Typical Designs of Timber Structures"—a 100 page book—is available to architects and engineers free upon request. Copies of several hundred other designs of typical Teco Timber Structures are also available on request.

## **TECO Research Service**

Teco conducts a continuous research program as well as sponsoring research at outstanding engineering colleges and laboratories to increase the design knowledge of timber designers. The benefits and results of this research are passed on to interested individuals in the form of design data and improved products.

**Specifications:** Specify Teco Connectors and grooving tools name. They are endorsed by leading lumber manufacturers and fabricators.

**TIMBER ENGINEERING CO.**  
National Manufacturers of **TECO** Timber Connectors and Tools  
WASHINGTON CHICAGO PORTLAND MINNEAPOLIS

# Specify Them!

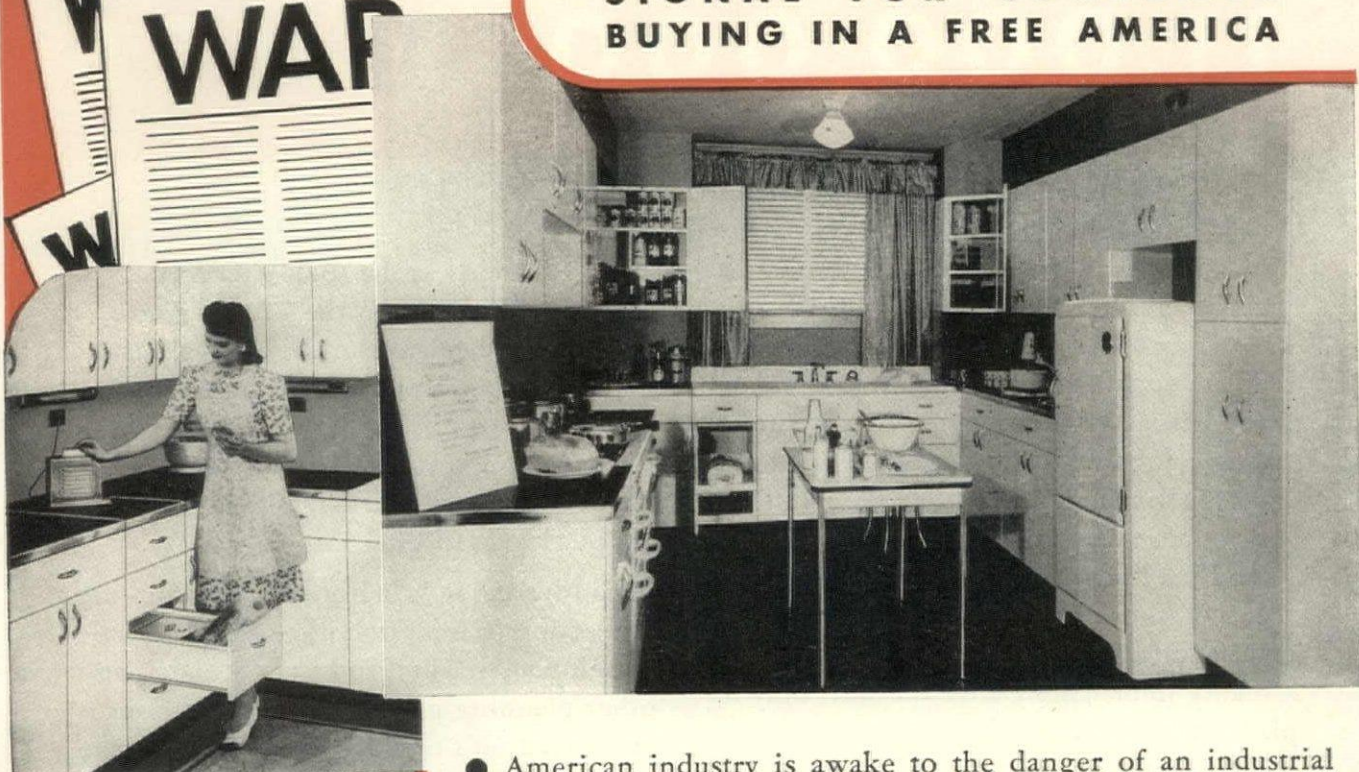


*When*

# WAR IS OVER!

## AXIS SUE FOR PEACE

THAT WILL BE THE ALL-CLEAR  
SIGNAL FOR CONSUMER  
BUYING IN A FREE AMERICA



Both are symbols of  
quality products

*Youngstown  
Kitchens*

● American industry is awake to the danger of an industrial "Pearl Harbor" when the war ends unless it plans for peacetime needs while it produces war materials.

This does not indicate the slightest slowing-up of the war effort. It has long been the habits of leaders in free American industry to plan for tomorrow's needs while producing today's merchandise.

Youngstown Pressed Steel is on the job with the definite idea of getting its distributors and dealers back into business at the earliest possible moment with the best possible product.

An intensive study of YOUNGSTOWN KITCHENS in actual use has revealed opportunities for the addition of many features, and these will be put into the post-war production schedule as fast as the time element will permit.

YOUNGSTOWN PRESSED STEEL Division of MULLINS MANUFACTURING CORP.  
WARREN, OHIO



... financing worked out. A start must be

DETROIT STEEL PRODUCTS COMPANY  
Now Exclusively Engaged in War Goods Manufacture  
Dept. NW-9 • 2270 East Grand Blvd. • Detroit 11, Mich.  
Pacific Coast Plant at Oakland, California

# Fenestra SUGGESTS

WINDOWS • DOORS • ROOF DECK • FLOOR DECK • METAL SIDING • AND OTHER BUILDING PRODUCTS



## WHY WE'RE SAYING THIS

# 11,000,000 TIMES

We know that the building industry—as America's No. 1 peacetime employer—must provide a large share of the immediate postwar jobs that our fighting men must have. We know that having these postwar jobs ready will be a good thing not only for the men—but for the industry, for you, for us.

And we know that planning often takes a lot of time. Peacetime employment in private industry for millions of men can be a reality immediately after the war, only if plans start now.

That's why we are advertising, over and over again, the suggestion, "Start an architect on a plan NOW..."

In September, October and November, to 2,500,000 home-loving readers of Better Homes & Gardens.

Every month, to 550,000 business minded readers of Newsweek.

Regularly, to the 70,000 readers of American Builder, the 77,000 readers of Practical Builder, as well as 15,000 readers of Building Supply News.

Every month, to readers of American School Board Journal, Modern Hospital and Hospital Progress.

This advertising is in line with the thinking and action of the Committee for Economic Development, The Producers' Council and other planning groups. Long war or short war ahead—it's time to get plans out of the dream stage and onto your planning boards. We hope that our advertising program will induce some of your clients to make this important step now.

DETROIT STEEL PRODUCTS COMPANY  
Now Exclusively Engaged in War Goods Manufacture  
Dept. AF-10, 2252 East Grand Blvd., Detroit 11, Mich.  
Pacific Coast Plant: Oakland, California



B. LEO STEIFF & CO.  
ARCHITECTS  
840 N. WABASH ST., CHICAGO, ILL.

From the office of  
P. JOHN HOENER  
WALTER HUBBARD  
ARCHITECTS

Harry Ray Nay  
ARCHITECT  
100 WEST VIRGINIA AND OHIO

LAFAYE, LAFAYE AND FAIR • ARCHITECTS  
1215 SUMMIT ST.  
COLUMBIA, S. C.  
Phone 23634

SMITH, HINCHMAN & GERRY  
ARCHITECTS

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100 EAST 10TH STREET, BROOKLYN, N. Y.

## ARCHITECTS APPLAUD FENESTRA'S ADVERTISING MESSAGE

Hundreds of architects have written to us, expressing not only their approval of the "Start an Architect" idea, but stressing also, the benefits that will accrue to every one if plans are started now. We quote below from a few of these letters:

"Entirely apart from any selfish appreciation which we might have, we agree that now is the time for both public and private programs to be made ready for postwar operations. Your publicity is bound to result in benefit to all parties interested in postwar efforts."

W. E. KAPP, President,  
Detroit Chapter A.I.A.,  
Detroit, Mich.

"May I personally, and on behalf of the Brooklyn Chapter, congratulate you on the excellent campaign to 'start an architect on a plan now' movement. It is a fine educational program, and a great help to the profession."

ADOLPH GOLDBERG,  
President,  
The American Institute of  
Architects, Brooklyn, N. Y.

"You have given a real boost to the activities of the profession and the construction industry."

H. L. WALTON, President,  
Smith, Hinchman & Grylls,  
Inc., Detroit, Mich.

"I think you have hit on a great idea, and one that will be of great value not only to the architects, but to all the building trades."

HARRY RAY NAY,  
Wheeling, West Virginia

"The idea is a timely one since it will give many projects the advantage of being in a position to proceed immediately upon the relaxation of building restrictions."

B. LEO STEIFF,  
Chicago, Illinois

"We wish to commend your firm on this project and can assure you that all architects feel that you have started a movement which should not only be of full benefit to architects, but to the building industry as a whole."

ROBERT S. LAFAYE,  
Lafaye, Lafaye and Fair,  
Columbia, S. C.

"In a very selfish way, and as a prospective beneficiary from this type of promotional work, we would quite obviously endorse this advertising. But in a very much more serious way, we sincerely believe that the idea is of inestimable value to the entire building fraternity."

P. JOHN HOENER,  
Walter Hubbard, Architects,  
St. Louis, Mo.


"This type of publicity is extremely important to the architectural profession and is done in such a way as to in no wise reflect on the professional standing of the architect."

JOHN SLOAN,  
Sloan & Behrens,  
New York, N. Y.

"On behalf of the entire Chapter, I wish to congratulate you on the type of subject chosen, and the fact that you are stressing the Architect's position in postwar plans is greatly appreciated."

WILLIAM E. LEHMAN, JR.,  
President, Newark Chapter of  
the New Jersey Society of  
Architects, Newark, N. J.





**"HIMMEL, THESE  
AMERICAN PLANES  
ARE HARD TO SEE  
AT NIGHT!"**

## **FLAME DAMPENERS by FRINK**

**help make 'em that way, Fritz!**

In order to make American fighter planes invisible against night skies, their exhaust manifolds are equipped with flame dampeners. These devices "black out" the exhaust flames and make it nearly impossible for enemy pilots and anti-aircraft gunners to spot our planes in the dark.

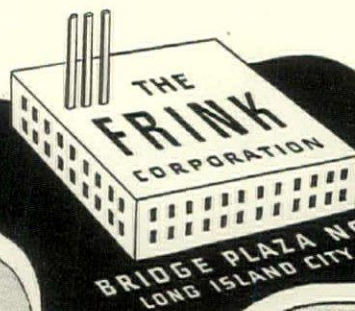
Flame dampeners for some of our most potent planes are made to minute tolerances by The Frink Corporation, specialists in the precision manufacturing and engineering that have made the name Frink synonymous with quality and skill in the lighting industry for 86 years.

A pioneer in fluorescent illumination as well as Incandescent lighting, Frink developed LINOLITE, the famous "engineered for vision" Fluorescent equipment now giving

such efficient and profitable service of America's foremost factories, stores and banks.

Today Frink, together with other manufacturers, is heavily engaged in the manufacture of implements of war. Tomorrow Frink will assume the high quality engineering and manufacturing of lighting equipment. Frink products have gained an enviable reputation in the industry.

**"LIGHTING SINCE 1867"**



**Subsidiaries:** Sterling Bronze Company, Inc.

Barkon-Frink Tube Lighting Corporation



When it  
comes time  
to go  
*Window  
Shopping*

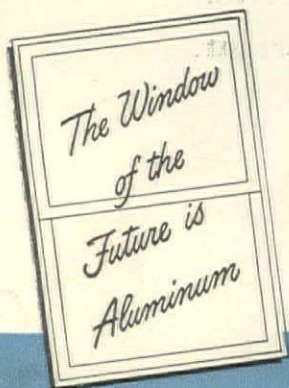


You can't buy an Aluminum Window today, of course. Manufacturers who made them before the war—others who have them on postwar-product lists—are 100% on war work. But these companies are working with aluminum, learning all there is to know about this remarkable metal, its fabrication and design possibilities.

That's why it's a *safe* bet that, when civilian building construction again gets under way, Aluminum Windows are going to be your *best* bet. What other material offers you all of the following advantages?

Light weight with high strength, accurately matched parts that do not swell, rot or rust; these are properties that make Aluminum Windows weather-tight, easy to open and close, and keep them that way throughout the years. Narrow frames that give maximum glass area, fine appearance without the need for frequent, expensive paintings to preserve them; these things help keep owners delighted with their Aluminum Windows.

In making your postwar plans, count on using Aluminum Windows. ALUMINUM COMPANY OF AMERICA, 2166 Gulf Building, Pittsburgh, Pa.



**ALCOA ALUMINUM**







## **TO HELP GET MORE PLANNING JOBS NOW!**

● Truscon sponsors immediate Construction Planning action right now.

The message on the opposite page is the first in a new series directed to the men who are directly responsible for postwar building.

In Business Week, this story will be read by over 500,000 executives. In Modern Industry, it will be read by over 150,000 responsible building-minded men.

The big men behind America's future will voice their action-getting messages in this new Truscon series. Watch for them each month—they are an important stimulus to new business for you.





*"There will be no immediate postwar construction unless plans are made now"*

MAJOR GENERAL PHILIP B. FLEMING, Federal Works Administrator  
From an address before the Georgia Engineering Society, at Atlanta, Georgia, July 19, 1943

"AMERICA cannot wait until the war's end, and then expect to launch immediately upon its much-needed industrial, community and residential building program. Precious little planning has been done. There are plenty of ideas floating around. Plenty of pretty pictures and idle fancies. *You can't build on idle fancies!*"

If you are *thinking* of planning or replanning your factory, your community or your home, you had better start getting each and every detail on paper *right now*.

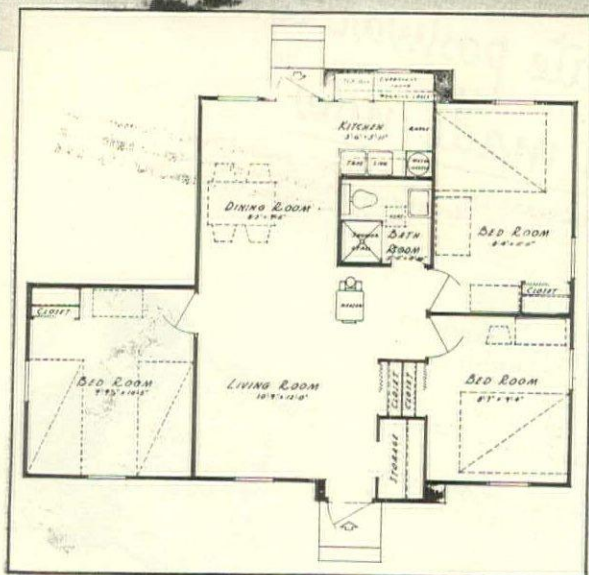
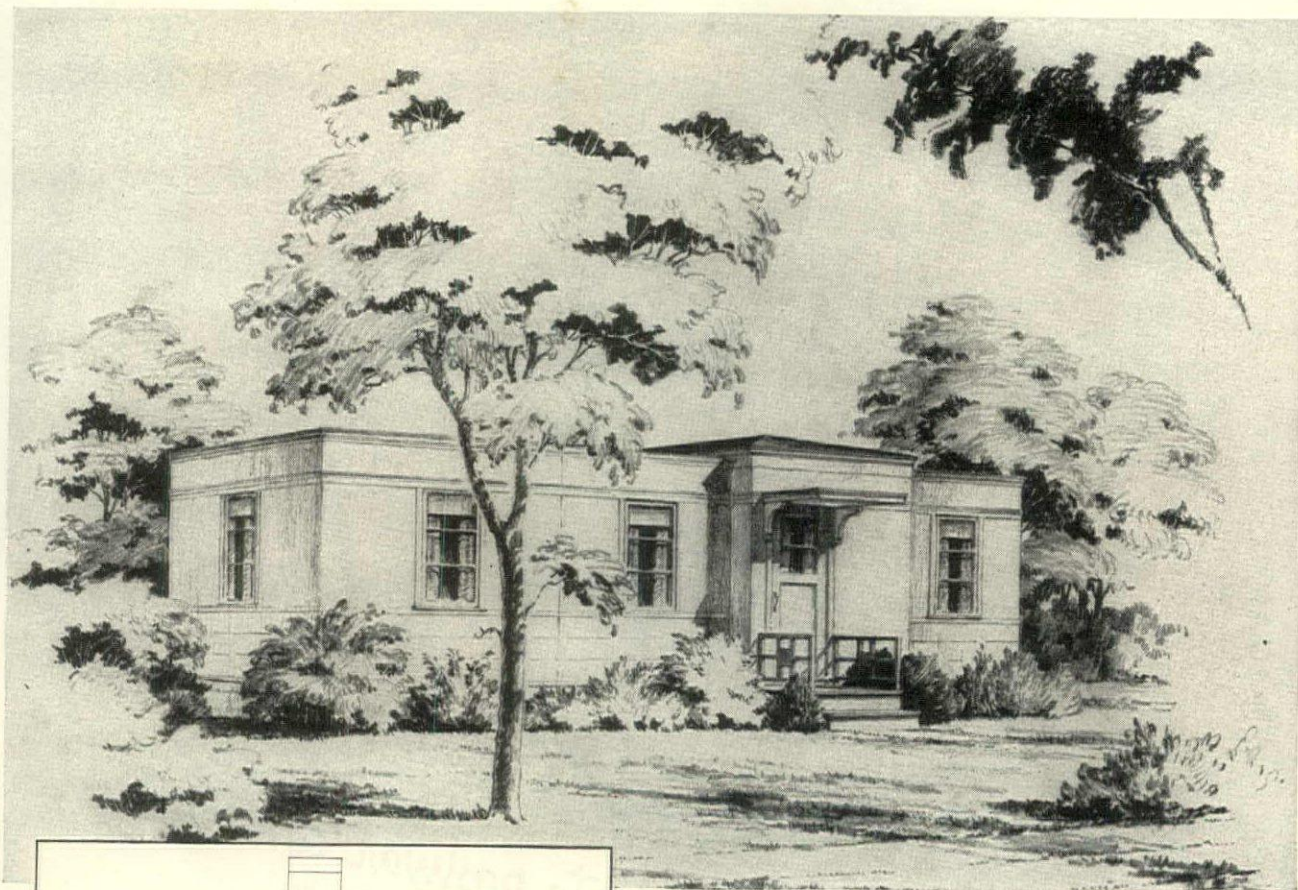
You must be ready to break ground and start hammers pounding the minute the last shot is fired. If you're not, you'll be left behind. Architects, engineers and builders cannot produce structures from thin air. These construction experts are ready and willing to help you *right now*. They have ready the facilities and manpower to analyze your postwar building problems, create new sketches and plans, and organize your program so that it will swing into action at a moment's notice. America's No. 1 industry, The Building Profession, is depending upon you for help in getting ready the plans for postwar factories, civic buildings, homes, urban rehabilitation and new designs . . . to assure better working and living places for Americans . . . and to assure employment for many millions released from wartime battle front and home front duties.



Before you start any construction, you've got to have working drawings —you've got to know where, when, how big, how much. Your architect and engineer are ready right now to help begin your postwar planning.

TRUSCON STEEL COMPANY, Youngstown, Ohio  
SUBSIDIARY OF REPUBLIC STEEL CORPORATION





*Additional Information*

*Upon Request*



## USHERING IN A *New Era*

**P**IONEERING in the manufacture of factory-built homes to meet the nation's emergency housing needs, Palace has developed a plan of free-standing housing whereby vacant lots in subdivisions already provided with public utilities can be quickly put to use.

Completely factory-built, factory-assembled and factory-equipped—with plumbing, heating and lighting equipment installed at the factory—Palace dwelling units are transported from factory to building site by motor truck, and are ready for occupancy practically upon arrival.

With one basic unit, as many as four variations in room arrangements can be supplied to meet the needs of each individual family. The units are provided either without bedrooms or with as many as four bedrooms, as desired—and with or without toilet, shower and bath.

Low in cost, yet conforming in every respect with the war housing requirements of the Federal government as to floor areas and building standards, Palace dwelling units offer the ideal solution to the problem of quickly supplying additional housing facilities in any section of a city where they may be needed.

# CORPORATION

*Flint, Michigan*



**1.** In the Building Boom at the Turn of the Century, AMERICA SWITCHED TO ELECTRIC LIGHT.

**THEN,** American homeowners insisted on Electric Lighting in their new homes.



**2.** In the Building Boom of the 20's, AMERICA SWITCHED TO ELECTRIC REFRIGERATION.

**THEN,** American homeowners insisted on wiring and additional outlets for Electric Refrigerators and other appliances in their new homes . . . and apartment house owners found Electric Refrigerators a "must."

## IN THE POST-WAR BUILDING BOOM

# Electric Ranges

## WILL BE "MUSTS"

**BEFORE THE WAR**—the switch to electric cooking began! 450,000 electric ranges were sold in 1940 . . . 780,000 in 1941 . . . with over 3 million now in use!

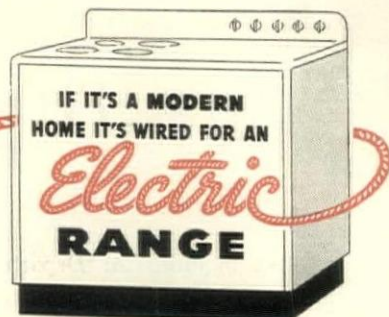
**AFTER THE WAR**—modern housewives will *insist* on electric cooking. So plan now to *build-in* wiring for electric ranges. The added cost at the time of building is negligible . . . and its sales value will be tremendous.

ELECTRIC RANGE SECTION  
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION



**3.** In the Building Boom which will follow this war, AMERICA WILL SPEED ITS SWITCH TO ELECTRIC RANGES.

*Wire Your Houses*  
**FOR EASIER SALES**



ESTATE • GENERAL ELECTRIC • GIBSON • HOTPOINT • KELVINATOR • MONARCH • NORGE • QUALITY • STEWART-WARNER • UNIVERSAL • WESTINGHOUSE

THE ARCHITECTURAL FORUM



# THE NATIONAL LIFE INSURANCE COMPANY

MONTPELIER, VERMONT

since 1934 has purchased more than  
\$135,000,000  
of mortgage loans insured by the  
Federal Housing Administration

under Sections 203, 207, 210, 603 and 608 of the  
National Housing Act

The properties securing these loans  
are located in 37 states and the  
District of Columbia.

*Applications promptly considered at  
current prices.*

Our experience and organization enable  
us to handle  
FHA loans promptly and efficiently

Direct inquiries to: Department A, NATIONAL LIFE INSURANCE COMPANY, Montpelier, Vermont



**MAKE THIS TEST -**  
*Prove* **BRIXMENT** *is BEST!*



**1**

"Cap" one brick with Brixment mortar (left), and one brick with mortar made with 50-50 cement and lime. After mortars have hardened, place both brick in a pan of shallow water. (Photo 1.)



**2**

Keep about an inch of water in the pan. Even if soluble salts are present in the brick or sand, you will soon be convinced that *Brixment* mortar helps prevent efflorescence. (Photo 2.)

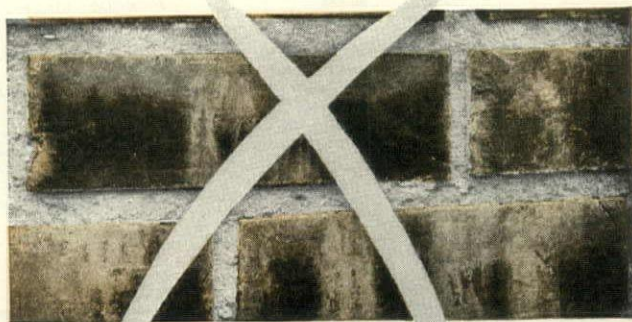
## **BRIXMENT** *Helps* **Prevent EFFLORESCENCE!**

**EFFLORESCENCE** is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading*.

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall.

Brixment itself *does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the waterproofing in Brixment mortar usually *prevents*

*them from coming to the surface.* . . . Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment mortar than with *any other kind.*



# **BRIXMENT**

## **For Mortar and Stucco**

*Louisville Cement Company, Incorporated, Louisville, Kentucky. Cement Manufacturers for Over a Century.*





Architect Marcel Breuer, now professor in Harvard's department of architecture, trained, then taught at the famed Bauhaus. To his credit are the first tubular steel chairs and some of the best examples of contemporary architecture and industrial design here and in Europe.

## FROM WARTIME PLASTICS-BONDED PLYWOODS... THIS "PLAS-2-POINT HOUSE" FOR POSTWAR LIVING

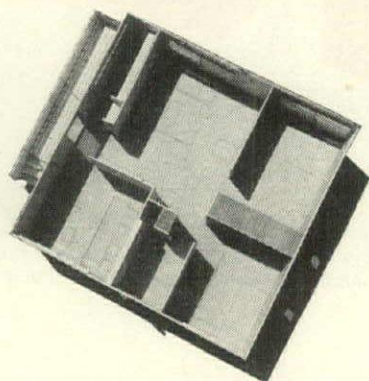
HARVARD'S Marcel Breuer has pondered the skeleton of a modern bomber... probed the possibilities of war-born, new plastics-bonded plywoods... and produced this interesting and original design for postwar prefabrication which he has christened the "Plas-2-Point House."

"Compared with current prefabricated construction," Mr. Breuer estimates, "the Plas-2-Point House would weigh a third as much, cost only 70% as much and, knocked down for shipment, would occupy only 30 to 40% as much packing space. Even fully assembled houses could be trucked short distances from central assembly lines to indi-

vidual building sites, then quickly anchored to foundation blocks."

Since neither walls nor partitions are load-bearing, the "Plas-2-Point House" is highly flexible. Exterior wall panels might be heavily insulated for cold climates or simply a series of screens for the tropics. They might be built up from Resinox-bonded plywood with a durable, colorful, weather-resistant melamine surface—or even from paper or fabrics impregnated with Resinox and melamine resins.

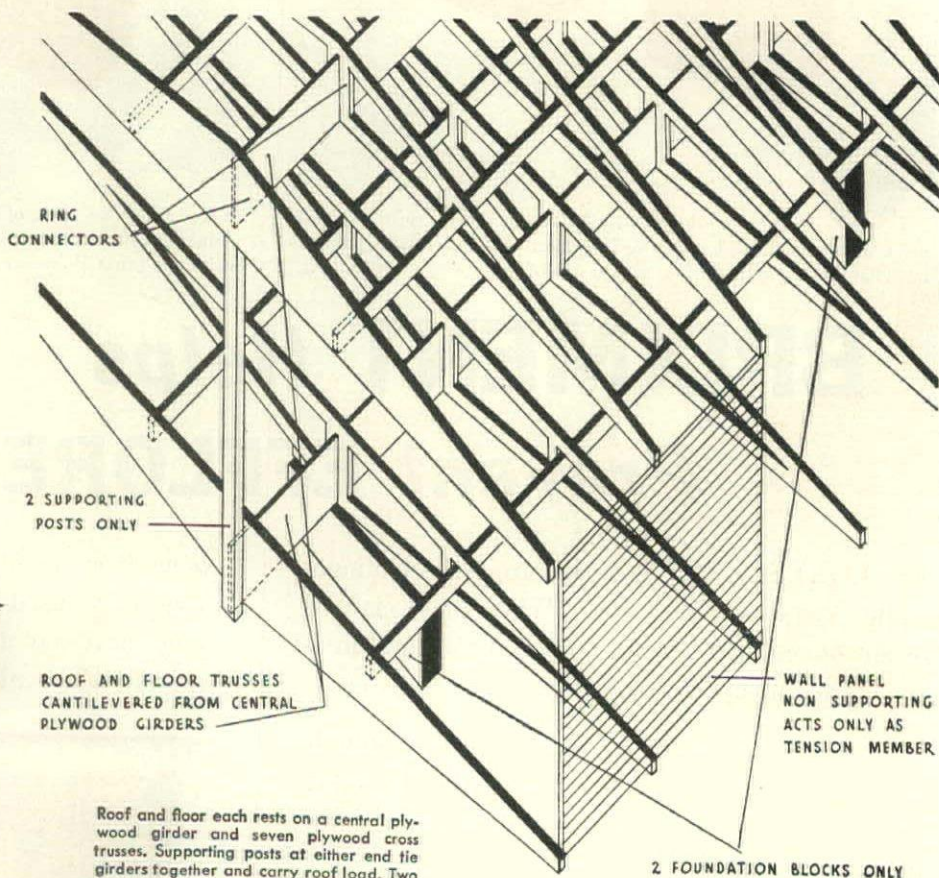
To save weight, gain production economies and add new notes of color and style, many of the house's fittings and accessories would probably be molded from plastics.



Interior partitions might be omitted, completed later. As family grows, a second complete unit might be added. Actually this house allows greater flexibility than conventional custom building.



With its narrow foundations, two-way cantilevered form and plywood skin, "Plas-2-Point" house is reminiscent of modern aircraft. Six-room house for cold climate would weigh 3 to 4 tons.



RING CONNECTORS

2 SUPPORTING POSTS ONLY

ROOF AND FLOOR TRUSSES CANTILEVERED FROM CENTRAL PLYWOOD GIRDERS

WALL PANEL NON-SUPPORTING ACTS ONLY AS TENSION MEMBER

2 FOUNDATION BLOCKS ONLY

Roof and floor each rests on a central plywood girder and seven plywood cross trusses. Supporting posts at either end tie girders together and carry roof load. Two foundation blocks, four feet by eight inches, provide anchorage. Outside walls serve as tension members and give structure rigidity.

### The Broad and Versatile Family of Monsanto Plastics

(Trade names designate Monsanto's exclusive formulations of these basic plastic materials)

LUSTRON (polystyrene) • SAFLEX (vinyl acetal) • NITRON (cellulose nitrate) • FIBESTOS (cellulose acetate) • OPALON (cast phenolic resin) • RESINOX (phenolic compounds)

Sheets • Rods • Tubes • Molding Compounds • Castings • Vupak Rigid Transparent Packaging Materials



### FOR FACTS ON POSTWAR PLASTICS...

For facts on postwar plastics and ideas on what they may be able to contribute to your particular products—see the 24-page booklet prepared for product designers, "The Family of Monsanto Plastics." There you will find information on significant new wartime advances in plastics materials and fabricating techniques, such as the new, rubber-like Safflex compounds, pulp molding and low-pressure bag molding. You will also find charts of comparative properties, graphs and photographs describing the complete family of Monsanto Plastics, probably the broadest, most versatile group of plastics offered by any one manufacturer. For your copy, simply write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.



## BRIEFLY TOLD:

August was another big month for Timken service schools. Forty-seven were held at as many different points.

★

LIFE magazine will be used for TSA's Fall magazine advertising. First ad series appeared in August 23 issue. Thousands have requested their copy of new folder on D. Allen Wright's "Victory Home," featured in ad.\*

★

Thirty-seven metropolitan papers, with a circulation of close to 10,000,000, will be used for Fall newspaper ads. Dealers' names will be listed.

★

OPA official calls new Timken fuel oil rationing digest folder "A splendid contribution offering little possibility of improvement." Folder was mailed a short time ago to all Timken owners.\*

★

August issue of Timken's house magazine, TIMKEN HEAT, now in the mails to TSA dealers. Filled with helpful hints on profitable wartime selling.

★

"How to Recondition Water Soaked Equipment" is title of new bulletin of special interest to architects in lowlands and coastal areas.

★

New "Victory Home" folder includes detailed heating plan of Radiant Heating System using Timken Oilboiler with circulating pump and wrought iron heating coils embedded in sub-floor. Of special interest to forward-looking architects and builders.

★

\*We'd like to send a sample copy to you, also. Please write on your letterhead and mention this ad.



YES, even if we have to "hoof it," Timken will do everything possible to back up dealers and keep existing burners operating efficiently for the duration.

Personally working with dealers and personally helping them with their problems *always has been* the biggest plank in Timken's dealer cooperation platform . . . *always will be!*

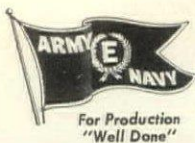
Although there's plenty of hard work involved in this, it has been made much easier by the built-in ability of Timken Products to stand up and deliver dependable performance under the most trying conditions.

Both of these things—personal work

with Timken Dealers and the way Timken Products stand up—mean much to architects. They result in better engineering of installations, better workmanship and lower total costs.

Naturally, this leads to increased client satisfaction . . . more recommendations to friends and acquaintances.

Right now we're planning not only improved heating and air conditioning equipment after Victory, but other new Timken Products for the home. Each will be as dependable in performance, as economical in operation, as the thrifty Timken Silent Automatic Wall-Flame Oil Burner.

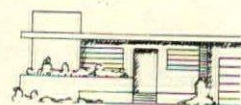
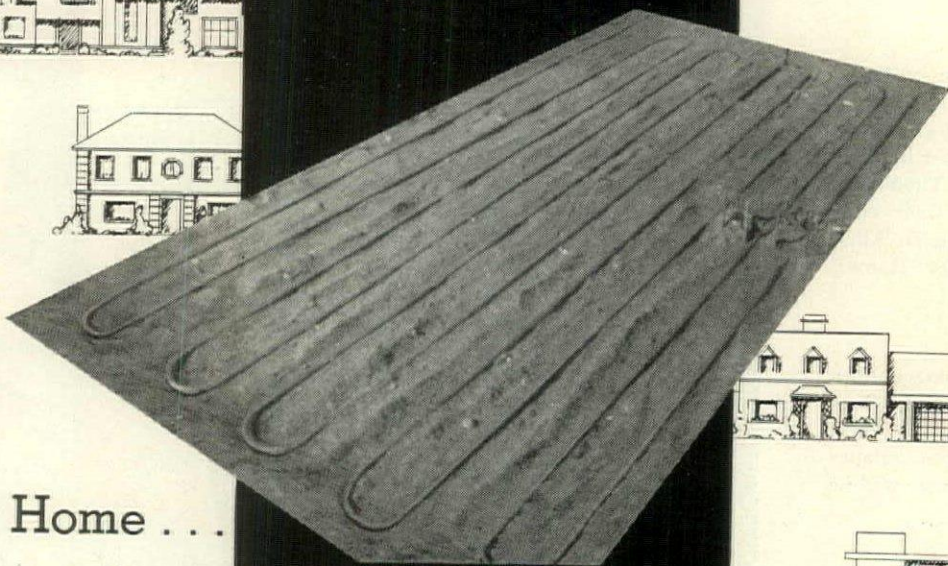
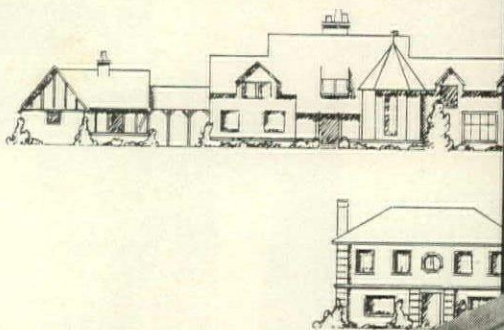


# TIMKEN *Silent Automatic*

Quality Home Appliances—for Comfort, Convenience and Economy

Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit 32, Michigan





Whatever

the Post-War Home . . .

you can still use **BYERS RADIANT HEATING**

and **BYERS WROUGHT IRON**

What kind of homes America will have tomorrow cannot be foretold now. The answer must wait until the ten million men who will live in them come trooping back to write the specifications.

Whatever form these homes may take, from a sprawling 20-room English country house to a crisp little Cape Cod cottage, they will still need good heating. The question of whether they can have Byers Radiant Heating need not be debated in abstract terms, for it is already installed in a wide variety of residences and its practicability is certified by the enthusiasm of users.

As an example . . . the picture above shows some of the Byers Wrought Iron heating coils installed in the basementless portion of a 16-room Oklahoma City residence. The coils were covered with flagstones in cement. After a winter in which temperatures reached the 2-below level with a 25-30 mile wind, the owner reported that everything worked fine . . . and that he was certainly glad he put in radiant heating.

In the building boom that is coming the utmost care in selecting materials is essential, for any errors will be multiplied a thousand times. Fortunately, Byers Wrought Iron has been proven in years of actual service, both in radiant heating installations and in other applications

where conditions are identical. Architects and engineers are not called on to stake their reputations on unknown quantities, when they use wrought iron.

Byers Wrought Iron consists of a high purity base metal, combined with tiny fibres of glass-like silica slag. It is different from any other ferrous material, and it is this difference that confers the unusual service properties. Corrosion is both resisted and diffused, avoiding the localized pitting that causes premature failure of ordinary materials.

Our Engineering Service Department will be glad to discuss any radiant heating project you may have in mind. Our technical bulletin, "Byers Wrought Iron for Radiant Heating Installations," treats the subject completely. We will be glad to send you a copy.

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

**BYERS WROUGHT IRON**

FOR EXTRA SERVICE

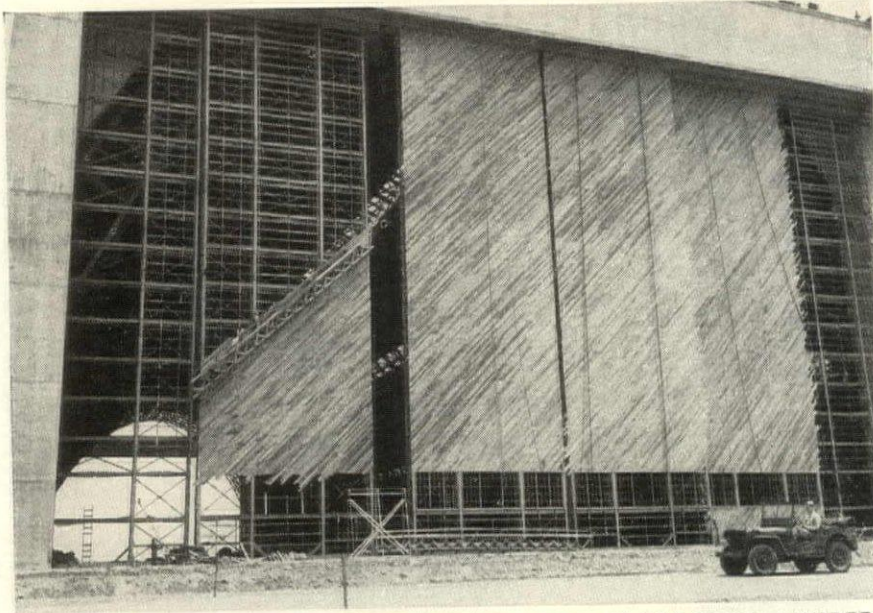
IN CORROSIVE APPLICATIONS

CORROSION COSTS YOU MORE THAN WROUGHT IRON



# PRODUCTS AND PRACTICE

The article *ELECTRONICS*, scheduled to appear in this issue, has been postponed at the request of the War Department.



ROLLING HANGAR DOORS ARE SHEATHED WITH FLAMEPROOF LUMBER

## TECHNICAL NEWS

**Huge wooden door** for one of Navy's coastal blimp hangars consists of six rolling panels 120 ft. high. Each panel is built of welded steel, sheathed in flameproofed 1 x 6 in. lumber. Sections are supported by railroad rails at the bottom and a timber box girder at the top. Overhead girder, which has a sag allowance of 1 in., is supported at each end by hollow concrete pylons into which the door segments roll. Retracting mechanism is so geared that all three panels, moving at different speeds, open simultaneously. Doors were designed separately from the timber arch-rib hangars to overcome problems of weight and wind resistance. Sheathing for the doors was flameproofed with an ammonium and boron salt compound by American Lumber & Treating Co., Chicago, Ill.

**Residential fires:** Fire records show that 60 per cent of all fires occur in the home, amounting to a loss of \$93 million in 1942, affecting 350,000 homes, killing nearly 6,000 people. These appalling statistics, provided by the Safety Research Institute, Inc., New York, N. Y., reflect the indifference of the average home owner to the hazards of fire. These hazards may be traced to three major causes: (1) poor construction—combustible roofs, defective chimneys, inadequate wiring, lack of fire stops and emergency exits; (2) carelessness—collections of rubbish, oily rags, careless treatment of

matches and smoking, defective heating appliances, flammable liquids, electrical causes and appliances; (3) inadequate controls—lack of fire extinguishers in convenient places.

In the face of tremendous losses from fire, some of these causes seem extraordinarily trivial and yet are fully substantiated by the facts (drawing, p. 188). With Fire Prevention week at hand, it would be well for every citizen to investigate conditions in his own home and check up on some of these basic causes.

In addition to individual city building codes, there are two up-to-date standards for fire-resistive construction in use: *The Recommended Building Code of the National Board of Fire Underwriters* and *The Uniform Building Code of the Pacific Coast Building Officials Conference*. These standards should be observed in all new construction.

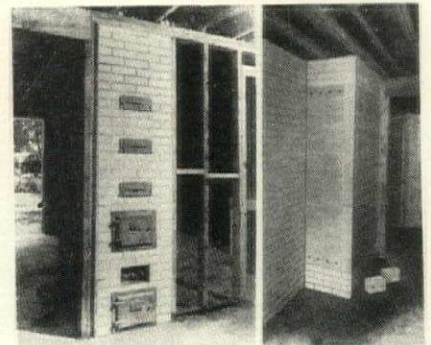
During the war, when antiquated buildings must be made to last for the duration, there should be periodic check-ups on construction and defects should be promptly corrected. New hazards arise in the present emergency where furnaces have been incompletely converted from oil to coal, or where portable heaters, possibly defective, are added to an already overloaded wiring circuit. Safety devices worth investing in are Fire-Underwriters-approved extension cords, addi-

(Continued on page 188)

## NEW PRODUCTS

**CERAMIC HEATER** based on Nurnberg stove developed for housing project.

**Features:** This hollow-glazed tile space heater is placed in the middle of a house with the heated walls exposed to the various rooms. A counterpart on the second floor connects with this unit by means of a chimney flue. As the specialized European tile is not manufactured in this country, two experimental units were built before a satisfactory design was achieved. To make the heater adjustable in temperatures and not too hot to the touch, hollow tile was decided on with vents at the bottom and top of heater. Only the grates and doors are of iron, using a total of 75 lbs. in contrast to ordinary space heaters which contain at least 150 lbs. Heater will be installed in 315 out of 448 small dwelling units in Pittsburgh's Broadhead Manor project. In the interest of smoke prevention, coke will be used although heaters will burn any fuel except gas



HALL AND ROOM VIEW OF HEATER

and oil. Coal bin and firing door are in the entrance hall of the project's small houses. Heater has been approved by the Clay Products Div. of the WPB and by the U. S. Bureau of Standards. **Manufacturer:** Developed for the Pittsburgh Housing Authority by Alexander Dzuby on basic ideas of B. J. Hovde, Housing Administrator, Architects Michael Rosenauer, Mitchell and Ritchey. Plans for its wide scale production are under way.

**SHOWER CABINET** can be erected in less than twenty minutes.

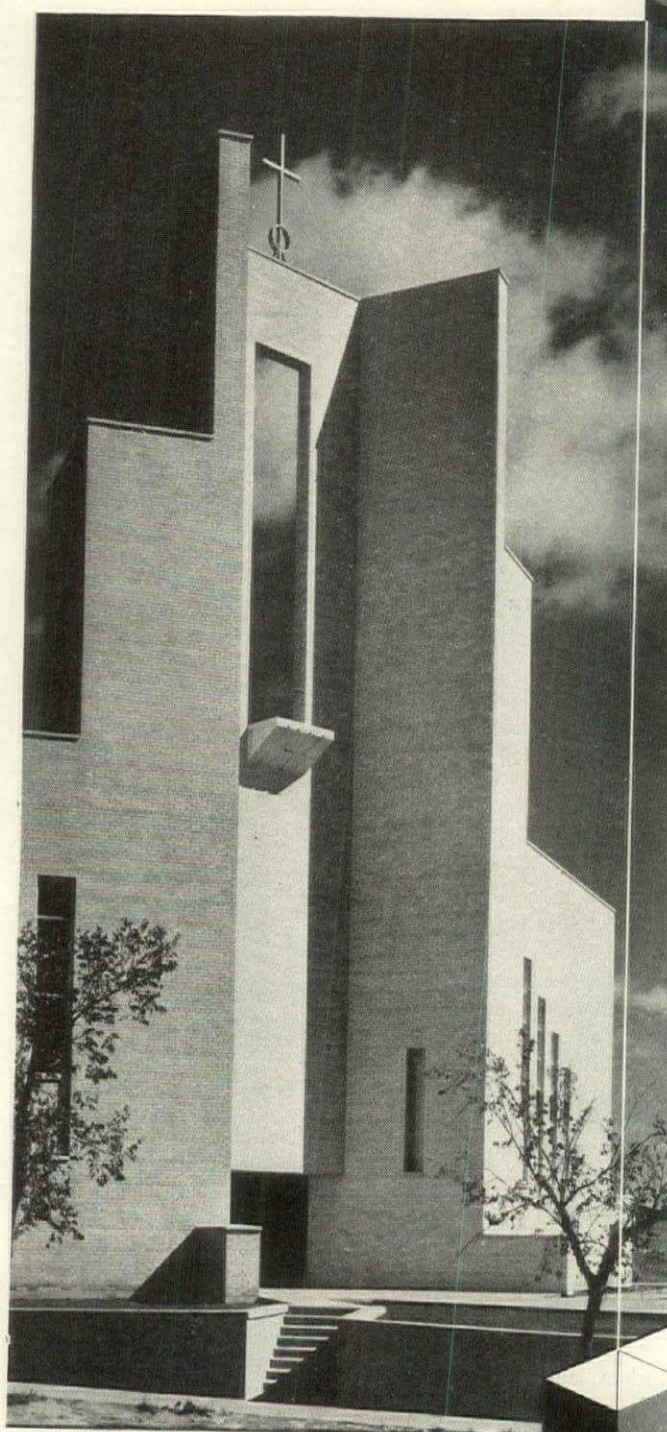
**Name:** Volunteer Shower Cabinet.

**Features:** Requiring only the permissible amount of critical materials, this cabinet is almost completely prefabricated. Tension lock joints on the corners are fastened in the back panel at

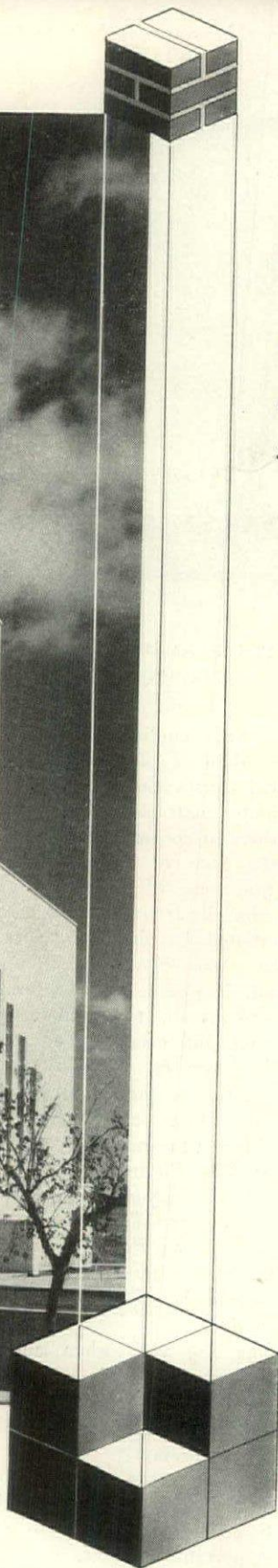
(Continued on page 190)



*An important announcement to the building profession*



© Miller Studios



**Brick and Tile Industry accepts  
4-inch modular design—the  
first complete industry to  
make this contribution to the  
simplification and economy of  
building**

This is a new and progressive step by the manufacturers of clay products—one of America's oldest industries.

Acceptance by these manufacturers of the 4-inch module as a unit of design for brick and tile will be of far-reaching benefit to architects and builders.

Architects' designs will be simplified. Endless hours of drafting and detailing will be eliminated. Standardization will mean economies. Building cost at the site will be lowered.

All this—with no loss in flexibility and originality of design, with no sacrifice of the beauty and dignity for which brick and tile structures have always been famed.

If you are one of the progressive architects who plan to design in module, we as an industry are ready to serve you now as we have in the past. Write for our new booklet, "The ABC of Modular Masonry." Structural Clay Products Institute, 1756 K Street, N.W., Washington 6, D.C.



**B R I C K   A N D   T I L E**





## POST WAR PLANNING



Specifications for post-war Gas Ranges bearing the famous CP Seal are being drawn up around conference tables all over America. Your advice and suggestions will be welcomed.

CP Gas Ranges meet the highest standards of engineers and home economists of gas utilities and gas range manufacturers combined. That's why CP Gas Ranges incorporate the advantages of all other cooking appliances plus exclusive features only the "know how" of the gas industry can provide. That's why CP Gas Ranges are the standard by which all cooking appliances are judged.

In the confused maze of new, untried, post-war products, CP again will be the American woman's buying guide — the Seal that will help keep Gas the preferred cooking fuel of 85 million Americans.

### 20 Million Messages Working For You

In 20 million newspaper advertisements, gas companies from coast to coast are urging women to *Buy War Bonds Today for the CP Gas Range You Will Want Tomorrow* — creating a desire for the Modern Kitchen you are planning for post-war markets. For details, write Association of Gas Appliance & Equipment Manufacturers, New York 17, N. Y.

NOTHING EQUALS  
**GAS**  
FOR COOKING



### MARCHING ALONG TOGETHER

Working hand-in-hand with gas companies and retailers all over America, these CP Gas Range manufacturers are developing an even greater CP Gas Range Program for you in the bright post-war era.

A-B STOVES, INC.  
AMERICAN STOVE CO.  
CLARE BROS. & CO., LTD.  
THE CLEVELAND  
COOPERATIVE STOVE CO.  
CRIBBEN & SEXTON CO.  
DETROIT-MICHIGAN  
STOVE CO.  
THE ESTATE STOVE CO.

GLENWOOD RANGE CO.  
JAMES GRAHAM MFG. CO.  
HARDWICK STOVE CO.  
MOFFATS, LTD.  
O'KEEFE & MERRITT CO.  
GEO. D. ROPER CORP.  
STANDARD GAS  
EQUIPMENT CORP.  
THE TAPPAN STOVE CO.



# The Gas Range of Tomorrow





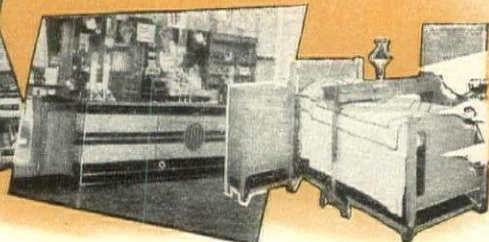
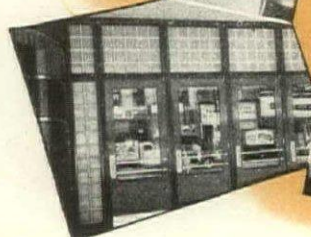
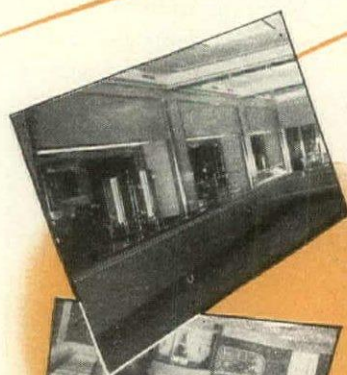
I DREAMT I DWELT IN MARBLE HALLS



# DREAM HALLS OF TOMORROW

**N**O WONDER people dreamed of marble halls and marble dresser tops in the pre-plastic age. Marble was enduring, non-warping and took a beautiful polish. But today man-made Formica laminated plastic adds luxury qualities no natural material from quarry, mine or forest ever had. Formica will not buckle, crack or chip. It resists wear, moisture, and chemicals. It can be given a wide range of colors. It takes a high polish. Fabrics, wood-veneers, and mosaics can be incorporated. If the hall of your particular dream is a sandwich bar, school or factory restaurant, hotel, theatre, store, bank or public building requiring table, counter or furniture tops, interior paneling or outside decoration you'll find Formica the material of your dreams.

THE FORMICA INSULATION CO., 4620 SPRING GROVE AVE., CINCINNATI, O.



# FORMICA



# FORUM OF EVENTS

New York's A.I.A., Architectural League and the American Institute of Decorators sponsor the first joint meeting of plastics industry and designers.

Allured and alarmed by recurring visions of a plastics blitz in the world to come, New York's architects and decorators got together last month to discover what they might discover. They borrowed a first-rate exhibition of plastics, set it up in the gallery of the Architectural League, organized a luncheon, cocktail party and a dinner, and invited as speakers bigwigs from the plastics industry, the merchandising field and the designing professions. Result was a huge cloud of smoke and a small but promising fire.

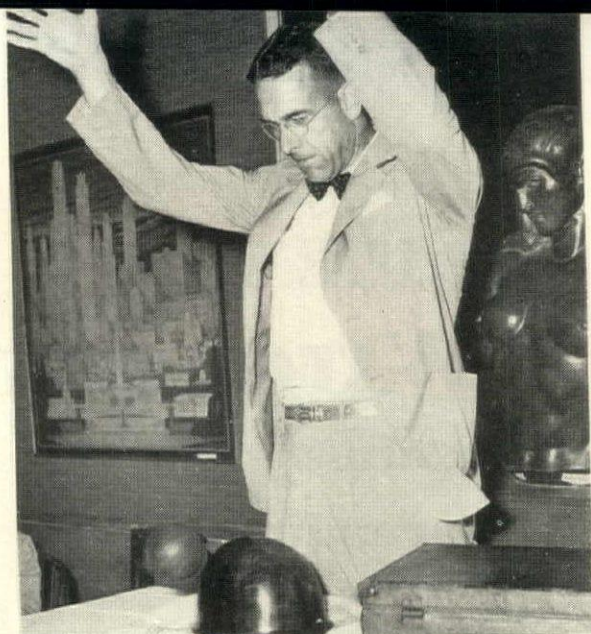
First tidbit was the news that plastics are not one material but many; that some are expensive and some are cheap; that all had distinct limitations as well as a bewildering variety of possibilities. Speaker after speaker hammered at these points, for the plastics industry has no fondness for an untenable reputation as producers of miracles.

(Continued on page 170)

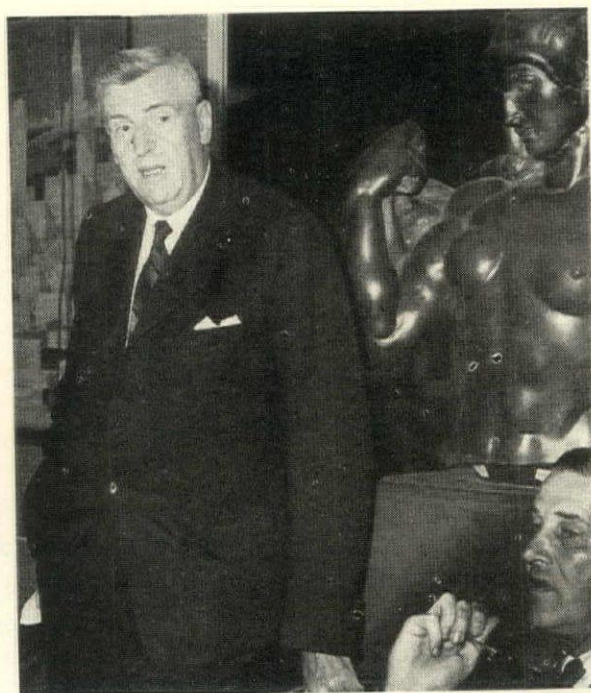
Photos: Myron Ehrenberg



**ORGANIZERS** were architect Morris Sanders, the Architectural League's acting president J. Scott Williams, and interior designer Freda Diamond of the American Institute of Decorators.



**MEDICINE MAN BROWN** of the Bakelite Corp. challenged architects with the prefabrication problem: to develop one design and quality to fill the needs of 1,000,000 people.



**WILLIAM LEICESTER** of the Casein Co. foresaw postwar availability resin-making chemicals as the start of a new era for wood. Macy's Joseph Kasper reflects.



**AVIATION'S EUGENE VIDAL** and fuselage



**HARRIET RAYMOND** tackles graphs, gadgets

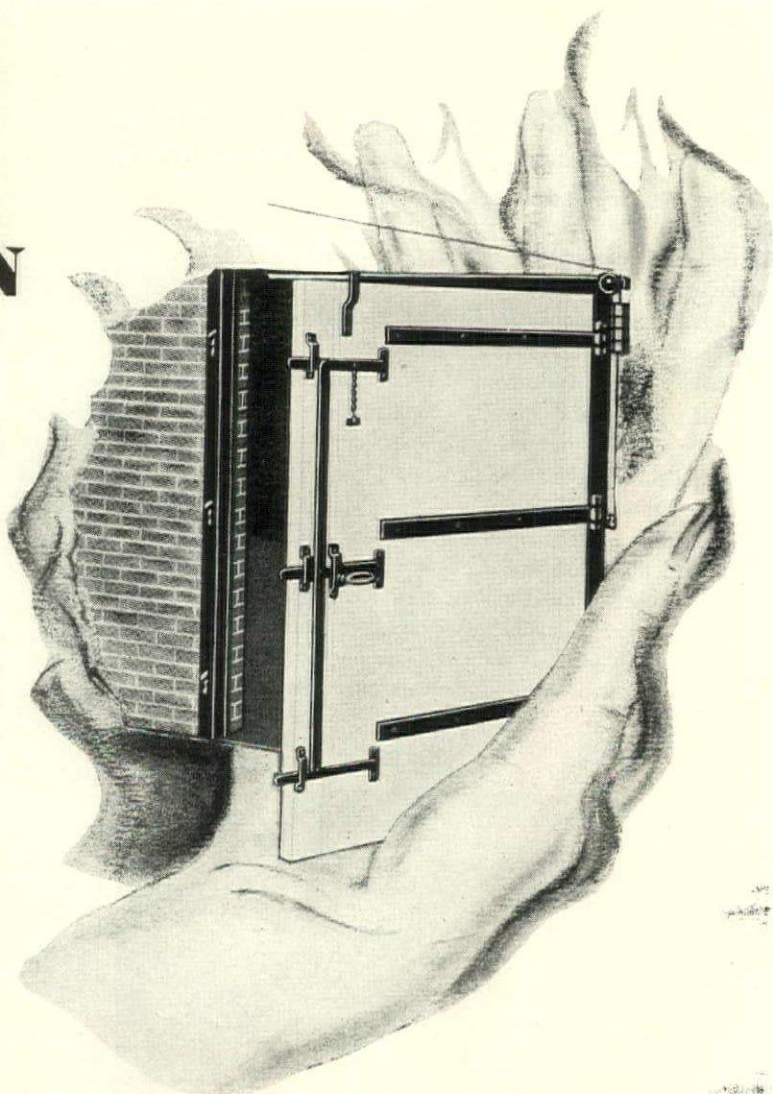


**MILLARD DEMAREST** of Celanese Corp.



# **SILENT WATCHMAN**

**against  
spreading fires**



**PROTECT  
your buildings  
with the NEW  
Richmond Fyrgard Door**

The hand of fire impedes production! Fire simply can't run amuck through your plant with the NEW Richmond Fyrgard doors on guard. Designed to meet the strictest Underwriters and Building Code laws, they fit any specification. Available in automatic closing, single and double swing doors, inclined or level track automatic sliding. Built to the highest standards of quality and protection. #24 gauge galvanized steel with vertical cap seams of #22 gauge steel, covers a core of three-ply white pine

tongued and grooved. Flush galvanized sheets of the NEW Fyrgard Door eliminate all horizontal seams, making a better appearance. The heavier metal provides a more durable surface than the usual 30 gauge terne plate on tinclad doors.

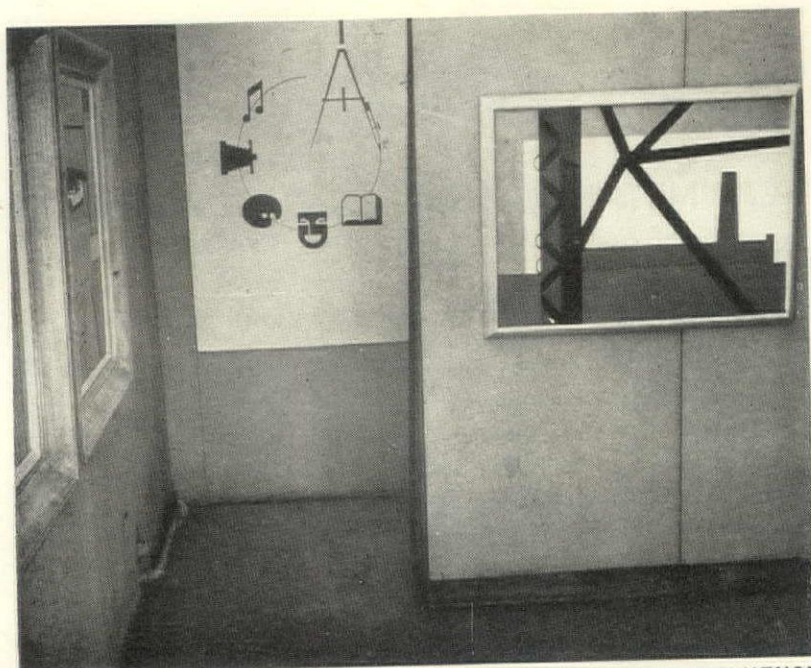
Protect your plant and your production against spreading fires with the NEW Richmond Fyrgard Door. They give you the greatest possible safety! Write for details and specifications. See our catalog in Sweets.

## **Richmond** FIREPROOF DOOR COMPANY

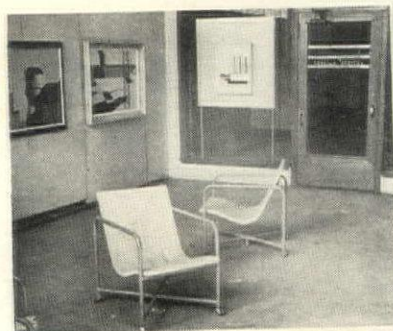
*(Affiliated with the Peelle Company, Brooklyn, N. Y.)*  
**RICHMOND, INDIANA**



# FORUM OF EVENTS



ILLUSTRATORS' TECHNIQUES REFLECT THE GALLERY INFLUENCE



GALLERY EXHIBITS ARE STAGED BY THE COMPANY FOR EMPLOYEES

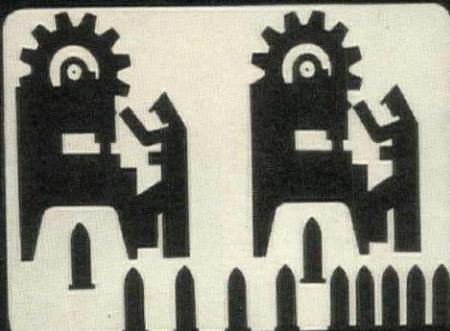
## Company art gallery stimulates illustrators producing animated propaganda films for consumer enlightenment.

Since most artists employed by large industrial firms are limited to working on small sections of a given design, few have the opportunity to fully exercise their imagination and creative ability. Nevertheless, their jobs require originality and versatility of technique. Until the establishment of this workshop gallery by Philip Ragan Associates, few large organizations had done anything to encourage their employees' awareness of new developments in allied fields of art.

The firm produces animated films for the Canadian government's war effort. Since these run two minutes or less, economy of means in visual expression is of the utmost importance. The gallery fills one need for such study by presenting works of painters, sculptors and graphic artists who also tell their stories clearly and briefly. Staff artists can see the work of others whose abilities might be used in their own workshop. Their individuality is spurred by the opportunity to exhibit their own works, and the company has found that what enriches the individual improves the collective work of the organization. Public reaction to the conduct of the exhibits is immaterial. Basic integrity coupled with variation of viewpoint and technique are the primary elements considered.



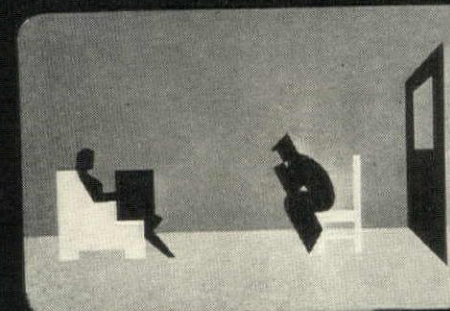
CANADA ENLISTS MORE THAN SOLDIERS



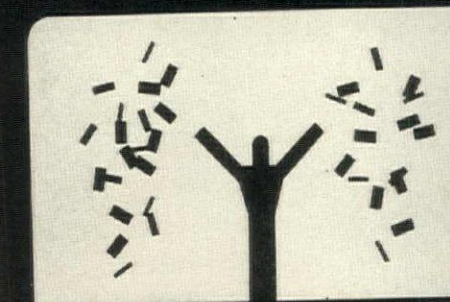
WAR PRODUCTION MEANS MORE JOBS



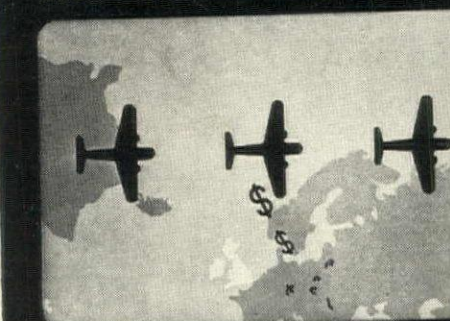
THEN LABOR SHORTAGE BIDS UP WAGES



CURTAILMENT OF LUXURIES CREATES



EXCESS SPENDING POWER=INFLATION



BONDS BOUGHT ARE BOMBS DROPPED



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#### In Military Service:

Robert W. Chastaney, Jr.  
William J. Conway  
Robert Hanford  
Joseph C. Hazen, Jr.  
George B. Hotchkiss, Jr.  
S. Chapin Lawson  
Amnon Rubenstein  
A. Banks Wanamaker

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VOLUME 10—NUMBER FOUR

V. 79, No 4





*"All we did was install M-H Temperature Control"*

MAYBE our artist overdid things a trifle when we asked him to depict the interest caused by installing M-H Individual Apartment Control. The awful truth is that he's an apartment dweller himself and knows first-hand just how uncomfortable an apartment can be without adequate temperature control. So probably the idea just went to his head. In any event, there's

no denying that M-H Individual Apartment Control not only satisfies tenants by keeping them healthy and comfortable, but, by eliminating costly overheating, saves money as well. Often the fuel saved can pay the cost of the control system in a single heating season. Minneapolis-Honeywell Regulator Company, 2740 Fourth Ave. So., Minneapolis, Minnesota.

**MINNEAPOLIS-HONEYWELL**  
CONTROL *Systems*





**When you can again get carpet... get the most for your money through the advice and services of Bigelow Carpet Counsel**



*This beautiful showroom for women's clothes at Marshall Field & Co., Chicago, has Bigelow Crescendo Lokweave on the floor.*

Before the war, hotels, theatres and stores saved money, time and trouble when they bought carpet by using Bigelow Carpet Counsel.

Carpet Counsel offered pattern recommendations from a wide range of designs. It gave estimates of wear in traffic areas. By using Carpet Counsel, you knew you would get the most from every floor covering dollar.

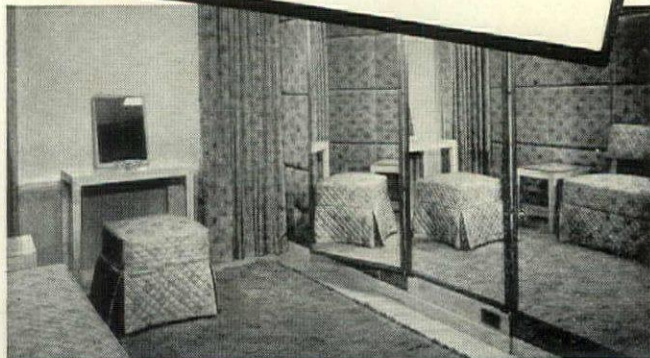
When Bigelow looms again weave contract carpet, let Carpet Counsel eliminate time-and-money-wasting guesswork in the planning stage.

**CHECK THESE CARPET COUNSEL FEATURES**

1. THE RIGHT CARPET FOR THE RIGHT TRAFFIC AREA
2. COLORS AND PATTERNS FOR EVERY TYPE OF ROOM
3. NO EXTRA COST PER SQUARE YARD



*One of the striking fitting rooms at Marshall Field's. The floor is covered with Chamfur Lokweave.*



*Another of the well lighted Marshall Field's fitting rooms showing an interesting decorative treatment.*

~~~~~  
BUY  
WAR  
BONDS  
~~~~~

**"When it comes to carpet come to Bigelow!"**  
**BIGELOW-SANFORD CARPET CO., Inc.**  
140 MADISON AVENUE, NEW YORK 16, N. Y.





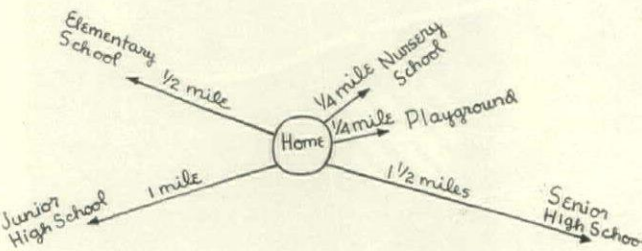
It can be seen from this table that any neighborhood of less than 400 children between the ages of 6 and 11 is not large enough to support a complete elementary school economically. For smaller neighborhoods, it will probably prove most desirable to transport pupils to a central school by bus. However, since the transportation of young children by bus is not entirely satisfactory, it would seem better to design neighborhoods of such size as to permit the construction of an elementary school at least up to the sixth grade. Two or three of these neighborhoods may then be served by a common middle school, while the high school or upper school could draw from four or six such neighborhoods. In this way optimum enrollments can be maintained in each school division.

AREAS SERVED BY SCHOOLS

It is generally agreed that the maximum distance which children 5 to 11 years of age should be required to walk to school is one-half mile. For children 12 to 14 years of age the distance may be increased to one mile and for high school youths one and one-half miles are permissible. Children in nursery schools are usually brought by their parents and under ordinary walking conditions the distance should not exceed one-quarter mile.

It has been found that when children are required to walk more than one-quarter mile to a playground, they will probably never get there. There are simply too many distractions *en route*. Playgrounds should, therefore, be well dispersed throughout the neighborhood and should provide not less than 100 sq. ft. for each child in attendance.

Maximum advantage in location of schools and playgrounds can be secured by placing the units at the center of the child population. This will assure maximum enrollment and minimum walking distance.



THE NEIGHBORHOOD-SCHOOL UNIT

The average number of children of elementary school age per family will vary widely and is dependent upon social and economic status and the part of the country in which the neighborhood is located. It is roughly estimated that families at a fair social and economic level will average about 0.5 children 5 to 14 years of age inclusive. Those families which are in the lower income brackets may attain a higher average (0.7) and the more well-to-do families may go as low as (0.4). Good housing and the re-creation of neighborly community life may tend to increase the birth rate except when parents are diverted to other interests such as are found near the large metropolitan areas.

The following tables throw some light on the wide variations and indicate the need for intensive study of each particular neighborhood situation.

NUMBER OF CHILDREN 5-14 YRS. PER 1,000 POP. 25-44 YRS.—NEWARK, N. J.		NUMBER OF CHILDREN 5-13 YRS. PER 1,000 POP. 20-64 YRS.	
SOCIAL-ECONOMIC STATUS		REGION	
Superior	400	Far west	236
Good	410	Northeast	295
Fair	500	Middle states	297
Poor	670	Northwest	350
Very poor	690	Southwest	380
		Southeast	426

The writer made a count of the elementary children in approximately 500 families of two income levels in the city of Newark, N. J., and found that for those families with an average income of \$1,020 per year there were 0.59 children 5 to 13 years of age per family, equivalent to an average of 0.066 children per grade per family. For the second group of families whose incomes averaged \$1,750 per year there were 0.47 children 5 to 13 years of age per family, equivalent to 0.052 children per grade per family.

From these figures on family size it is possible to determine roughly the number of family units required in a neighborhood to support an elementary school. For example, with an organization of grades 1 to 6 the enrollment should be about 400 pupils. If we use an average figure of 0.05 children per grade per family, we would expect 0.3 children per family for this school, and would require 1,330 families to fill the school.

The maximum number of families in any neighborhood unit could likewise be determined in terms of a maximum desirable enrollment of 800 pupils. At 0.3 children per family for grades 1 to 6, this maximum would be approximately 2,666 families.

It is apparent, therefore, that from the point of view of school size, each neighborhood should range in population from 1,000 to 3,000 families.

Within each of these neighborhoods, subdivisions based on nursery school units could be created. Each nursery school should have at least two teachers and the minimum enrollment should be considered as 20 infants. It would require, on the average, about 200 families to supply these children. This is only a rough approximation and the variation might range from 100 to 400 families depending on a large number of factors. However, the attendance of children at nursery school is so irregular that it is well not to expect more than 25 or at the most 50 per cent of the potential load in attendance. One nursery school for 400 families would probably be adequate except in unusually youthful districts.

NEIGHBORHOOD EDUCATIONAL FACILITIES

A hundred years ago, when education was narrowly conceived as schooling in certain subject matter, one of the outstanding teachers of the time, Henry Barnard, suggested that the school building "be surrounded by a yard, of never less than half an acre." The modern educational program is not so restricted but rather is conceived in terms of neighborhoods of 100 to 500 acres in which homes, farms, gardens, parks, play areas, wooded land, work places and school buildings are so arranged and planned that each contributes to the education and schooling of children, youths and adults. Except in the older sections of congested cities, the elementary school building site should be at least five acres with high school sites ranging from 15 to 25 acres. Even such generous building sites should be so integrated with surrounding parks and wooded areas that their boundaries are lost in the total neighborhood schemes.



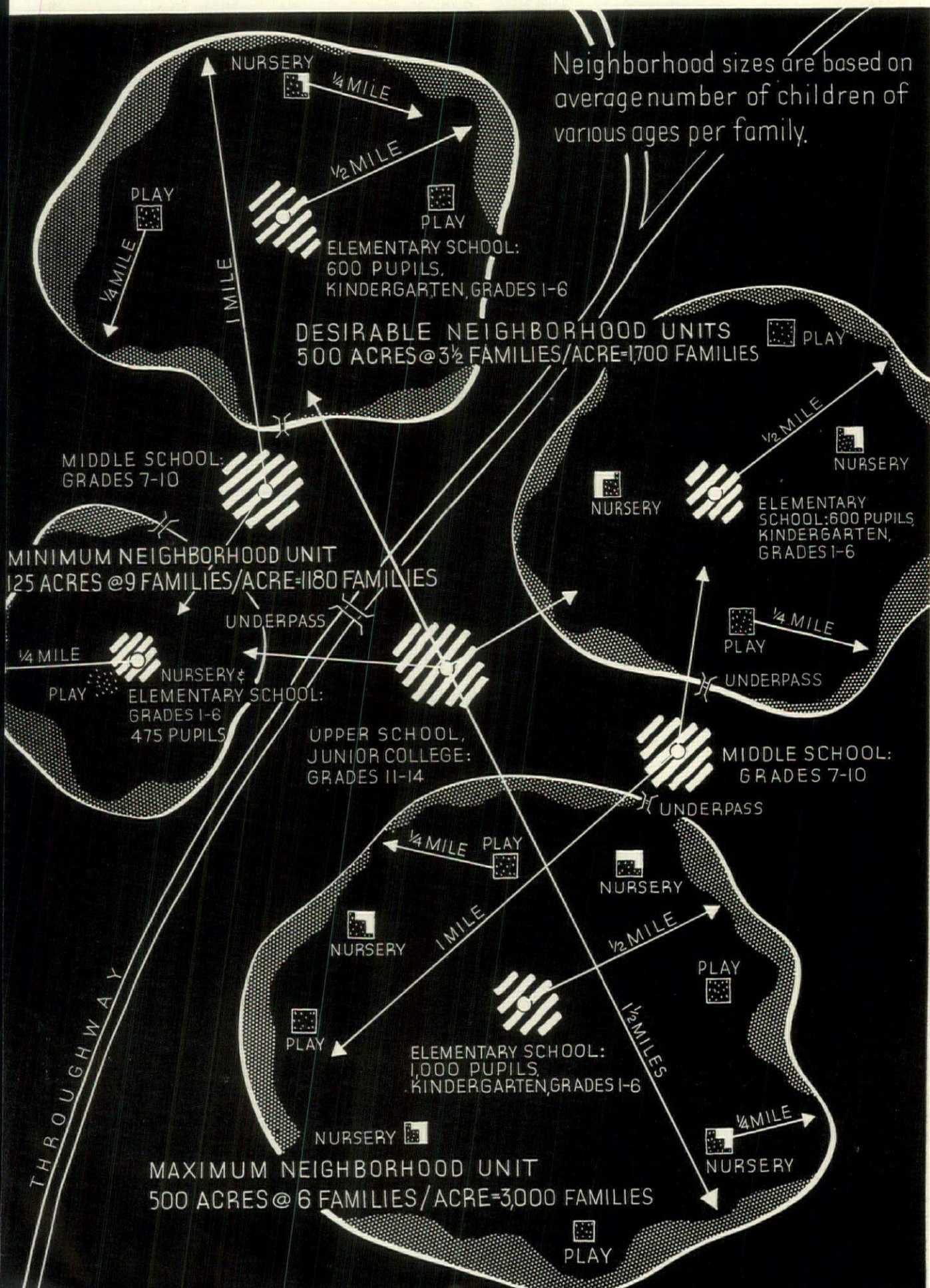
# SCHOOLS AND NEIGHBORHOODS

N. L. ENGELHARDT, JR.

## DESIGN DATA 5.

THE ARCHITECTURAL FORUM

Neighborhood sizes are based on average number of children of various ages per family.





# A SATELLITE TOWN FOR THE DETROIT AREA

Proposal for a complete residential community of 15,000, strategically located in relation to places of employment. In this group project a new collaborator makes his appearance: the manufacturer.



Horr and Haas (Stran Steel), Hellmuth and Leone (Smith, Hinchman & Grylls), Thelander and Shannon (Stran Steel), Knight, (Knight-Menard)



Designers, Pivatelli, Giberson and Pauly

**SMITH, HINCHMAN & GRYLLS, INC., (Architectural Division)** is one of the oldest firms in the country and has long been known as designers of many large office, educational and industrial buildings. During World War I they built shipyards and ordnance factories and designed gun mounts for the War Department. Since the outbreak of World War II they have completed a program which included about 1,000 buildings for the nation's small arms ammunition plants.

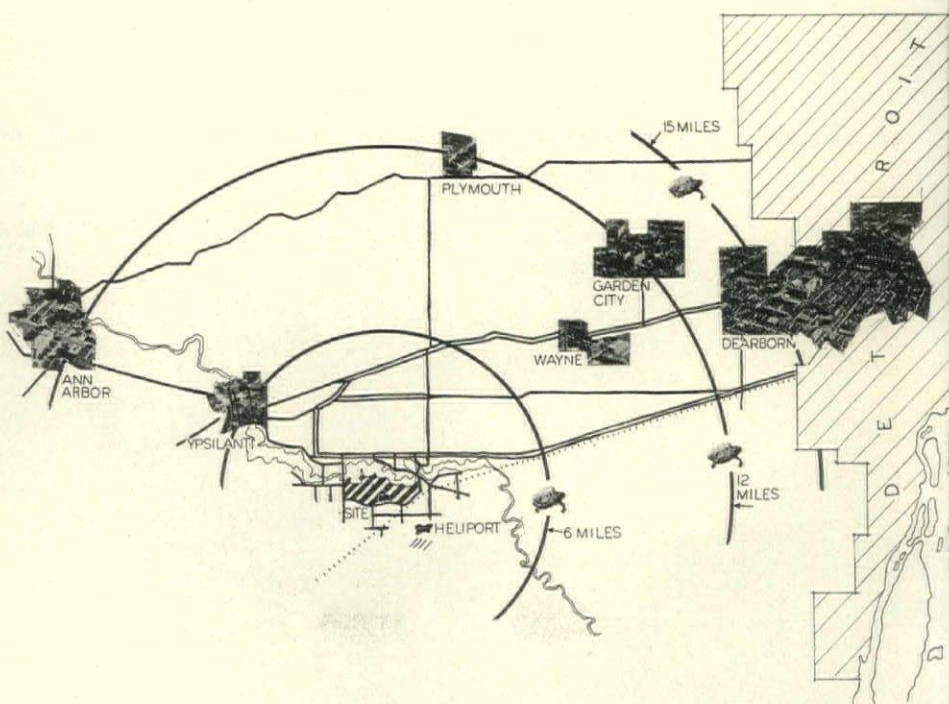
**STRAN-STEEL DIVISION, Great Lakes Steel Corp.,** manufacturers of a variety of steel products, were prompted to collaborate on this project through their interest in mass production of all types of building components, particularly those which can be applied to housing. Many of the drawings reproduced were prepared by staff architects in collaboration with Smith, Hinchman & Grylls.

**KNIGHT-MENARD CO.,** one of Detroit's leading subdivision development firms, have behind them a long record of highly successful realty promotions. One of these, Rosedale Park, was started with 50 houses. Today it includes 2,700 units and is one of the outstanding realty developments of the region.

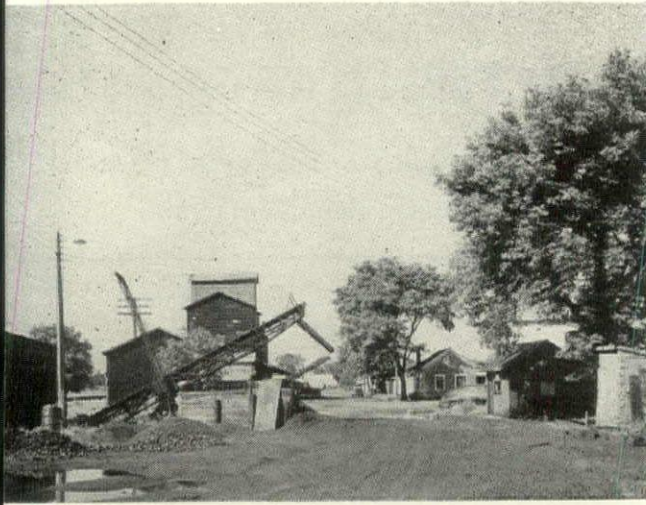
## THE SITE

The project selected by our group was a satellite community because such a development seemed ideally suited to local conditions. Big industrial establishments are scattered all through this part of the state, with a great deal of desirable vacant land in between. It seemed reasonable to assume that a new community, strategically located, would easily attract its maximum population, and that the town in turn would have an excellent chance for survival because of the diversified employment opportunities within easy commuting range. The adjoining map, showing the proposed location, illustrates this.

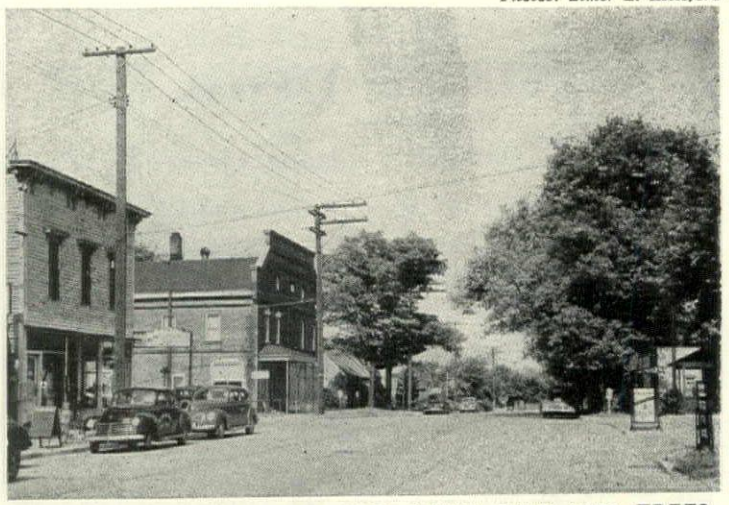
Site selection began with the study of detailed maps of the environs of Detroit. In evaluating possible locations, the presence of large new war plants was considered, since many of their employees are currently housed in FPHA units scheduled for demolition in



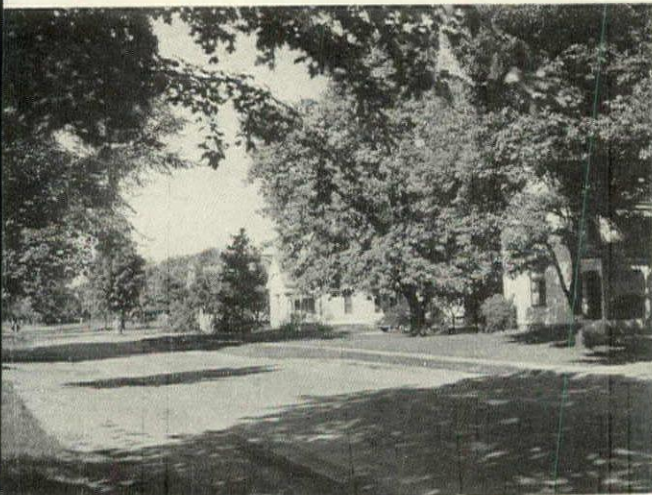




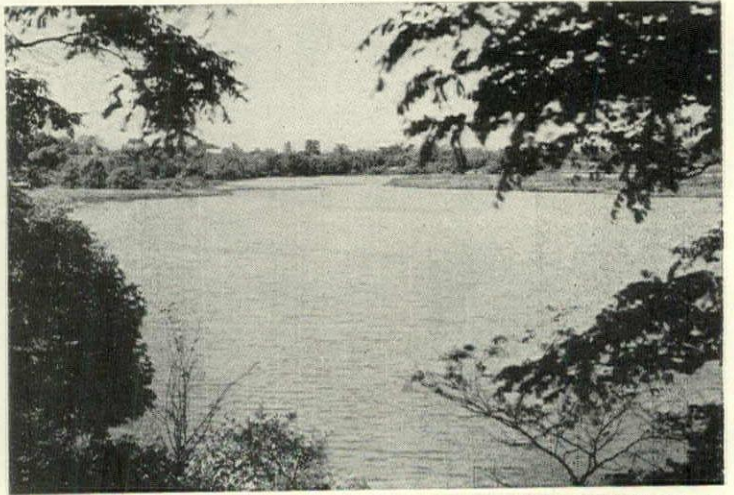
RAILROAD SPOILS THE ADJACENT PROPERTIES



CENTRAL BUSINESS AREA HAS MANY FINE OLD TREES

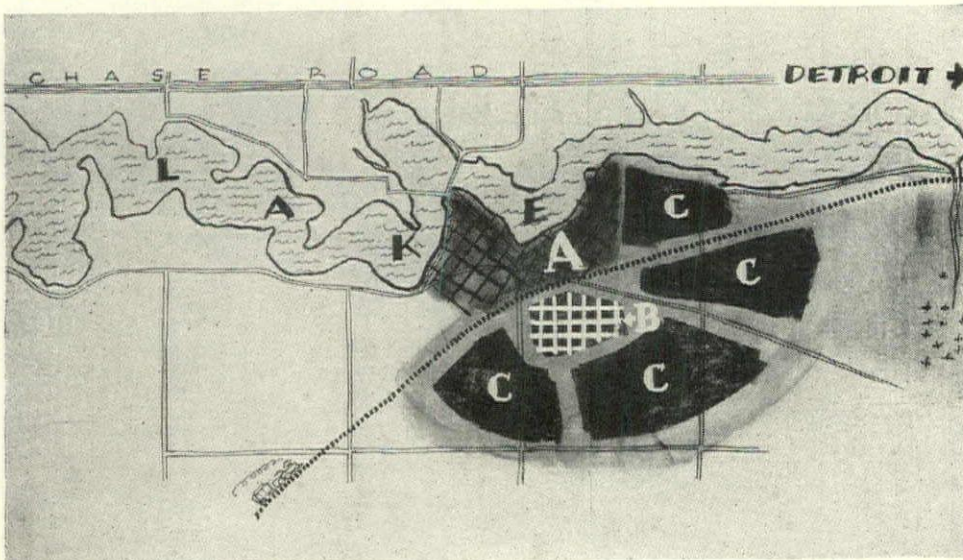


BELLEVILLE'S STREETS ARE WIDE, PLEASANT

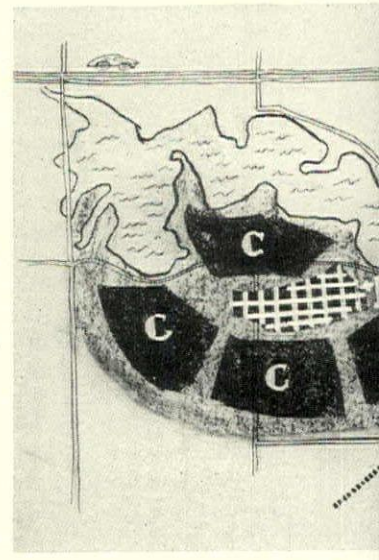


THIS WOULD BE THE VIEW FROM THE NEW COMMUNITY

SCHEME ONE: RAILROAD TRACK DIVIDES THE TOWN INTO SEPARATE HALVES



SCHEME TWO: TOWN MOVED





**THE OLD TOWN OF BELLEVILLE**, which according to the final plans would be retained as one of the residential units of the new community, occupies a triangular peninsula jutting out into the lake. While its houses are old and its business district anything but modern, the town has an air of clean, solid comfort and a generally pleasant atmosphere. The only major change would be re-routing Highway 56, which now cuts through the main street. Location of the new community can be seen on the air view by comparing with the sketch plans below. On these plans "A" represents the old town, "B" the shopping and community center, "C" the residential neighborhoods.



PREWAR AIR VIEW SHOWS BELLEVILLE SURROUNDED BY FARM LANDS

the early postwar period.

A number of areas were defined and visited. Items given prime consideration in site selection were highway access to Detroit and outlying industrial centers, availability of services, and nearness to park areas and other recreational facilities.

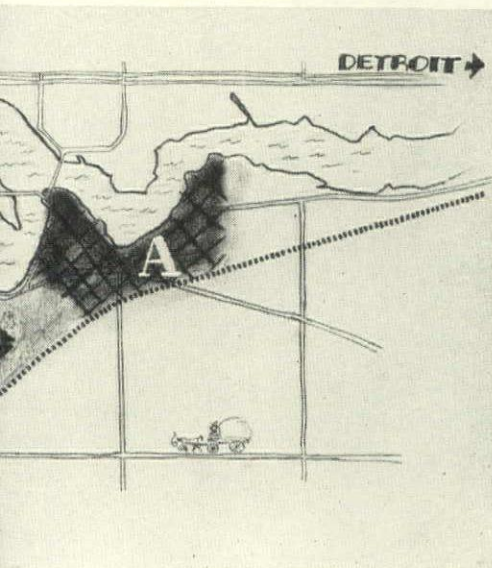
It became apparent almost at once that many of the desirable sites had been taken. Those possibilities which remained were very quickly narrowed down to the village of Belleville.

Belleville satisfied all the initial requirements. In addition, it had the advantage of the presence of an artificial lake created by a nearby dam. There are several new highways close by, and a freight railroad line serves the town at present. The shore of the lake opposite Belleville has been selected by the Huron-Clinton-Metropolitan Authority for a major park development. Investigation revealed an abundant supply of well water, and the flow of the Huron River is sufficient to carry off the effluent from the sewage disposal plant which would service the satellite city.

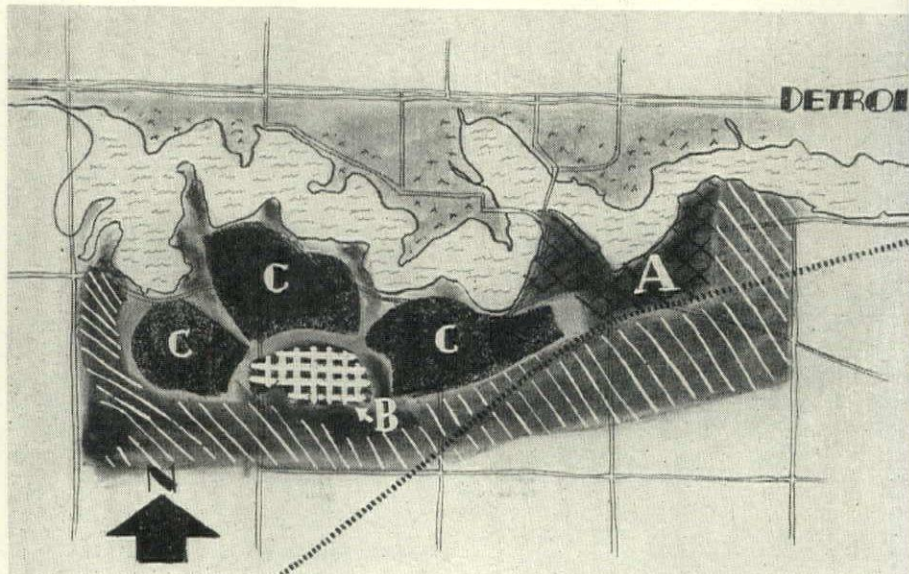
The site having been agreed upon, the next step was to determine what population could be supported, and at the same time be reasonably handled by private enterprise.

FPHA has erected 28,000 temporary dwelling units in this same area, but this number is estimated to meet half the total requirements. It is apparent, therefore, that if the adjacent industries are to operate in the postwar period, a number of communities must be established. Studies by the New York Regional Plan Commission reveal that 15,000 persons will support 29 types of businesses out of the 32 most commonly required. Consequently, a community of 15,000 seems well-balanced from the

KE ADVANTAGE OF LAKE SHORE FRONTAGE



FINAL SCHEME SHOWS BUSINESS CENTER MOVED AWAY FROM LAKE





# RESIDENTIAL SECTIONS OF THE NEW TOWN SKIRT THE SHORE OF A LAKE

1. Civic center: city hall and auditorium

2. Community & neighborhood shopping centers

3. Elementary schools and high school

4. Hospital

5. Helicopter field and station

6. Golf course
7. Community bathing beach

8. Row housing

9. Single-family houses (1 and 2-acre plots)

10. Single-family houses (5-acre plots)

11. Freight railroad tracks

12. Proposed highway
13. Existing highway

14. Existing highway

15. Express highway to Detroit

16. Artificial lake

17. Proposed park development

18. Town of Belleville







point of view of merchandising.

Another reason for stabilizing the city's population at that figure is that the shopping and civic center would be close to the maximum possible with 100 per cent pedestrian circulation. This is based in part on the Chicago Regional Planning Association's recommendation of 51.8 ft. of business property for each 100 population.

Thus, the basis for the plan illustrated was arrived at: 4,900 dwelling units, representing a population between 14,000 and 18,000. Furthermore, this size will support a Senior High School with around 1,000 students. A variety of entertainment features—necessary in a community removed from larger centers—can be supported.

Requirements were made more precise by a study of available statistics on the demand for dwelling types, and the housing program was set up as follows:

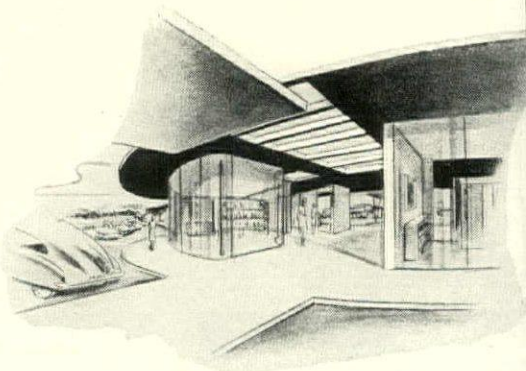
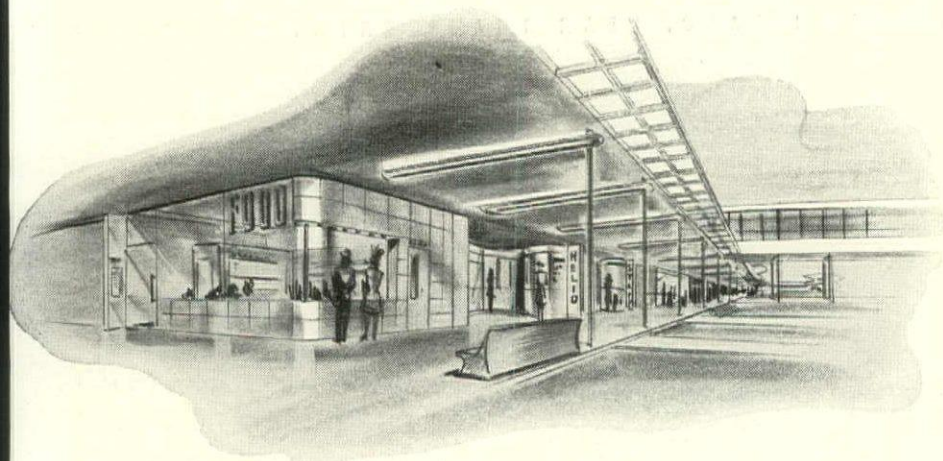
- (a) 30% —4 rooms or less.  
 51.7%—5 "  
 16.1%—6 "  
 2.2%—7 "
- (b) 24% rental housing, of which:  
 12% would be row houses, and  
 12% apartments.
- Of the houses offered for sale:
- (c) 9.1%—\$3,300 to \$4,400  
 30.2%— 4,400 to 5,500  
 31.2%— 5,500 to 6,600  
 24.8%— 6,000 to 8,800  
 2.5%— 8,800 to 11,000  
 .9%—11,000 and over.

#### THE SOLUTION

An obvious solution to the general problem involved the placing of a number of residential lobes around the existing town of Belleville, and enlarging the present business center. (See Scheme 1, page 92). Chief disadvantage was that the railroad split the town. It was suggested that a 500 ft. strip of community-owned and operated orchard be planted along the railroad, but the town was still divided.

In the next stage the community was moved to the west of Belleville, and provided with its own shopping center. In the final solution (Scheme 3) the business center was moved away from the water front, giving this area over to dwellings and park. This scheme is in essence a combination between a one-cell old town and a three-cell new town, bound together by a greenbelt affording permanent protection. The solution also permits Belleville to retain its present character, which is worth preserving.



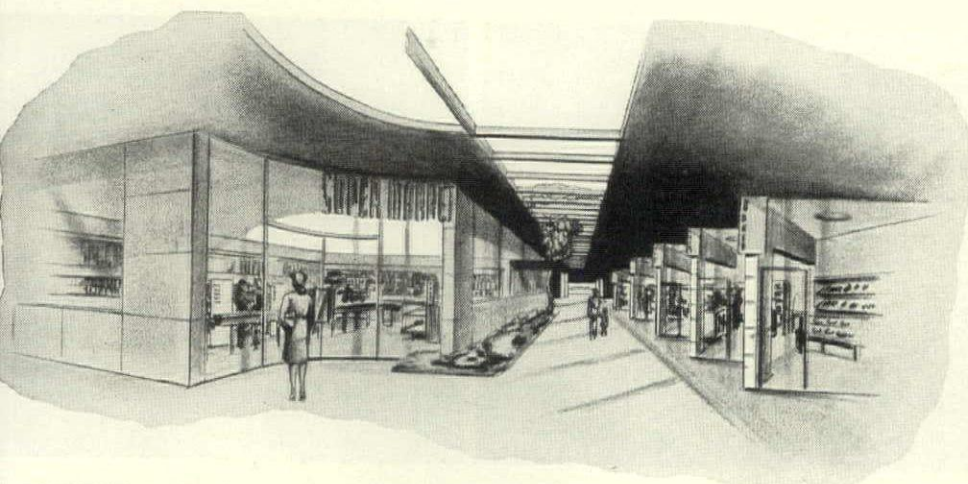


ALL SHOPS IN THE CENTER ARE FLANKED BY COVERED SIDEWALKS. TRELLISES ADD A NOTE OF GAIETY AND AD

DETAILED PLAN MODEL WAS MADE DIRECTLY ON AN AERIAL SURVEY. NOTE THAT THE MASSES OF EXISTING TRE





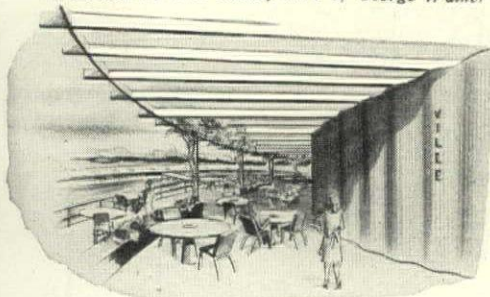


NEEDED DAYLIGHT. ANY SHOP PLAN CAN BE SET UP UNDER THE ROOF SLAB

BEEN USED TO FULL ADVANTAGE



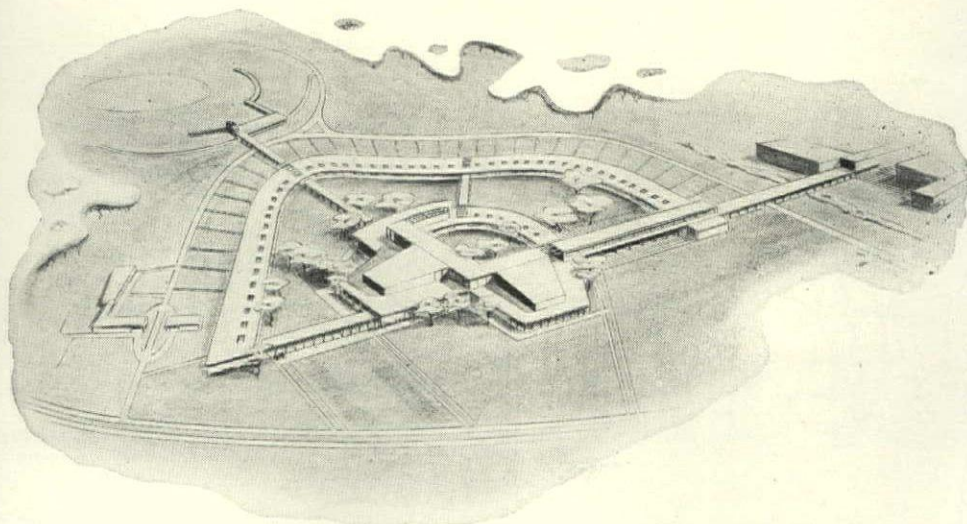
Renderings by Ted Ornas, office of George Walker



SUGGESTED TERRACE RESTAURANT



PLAN PROVIDES FOR "HELIPORT"



BIRDS'-EYE VIEW OF THE MAIN COMMUNITY AND SHOPPING CENTER

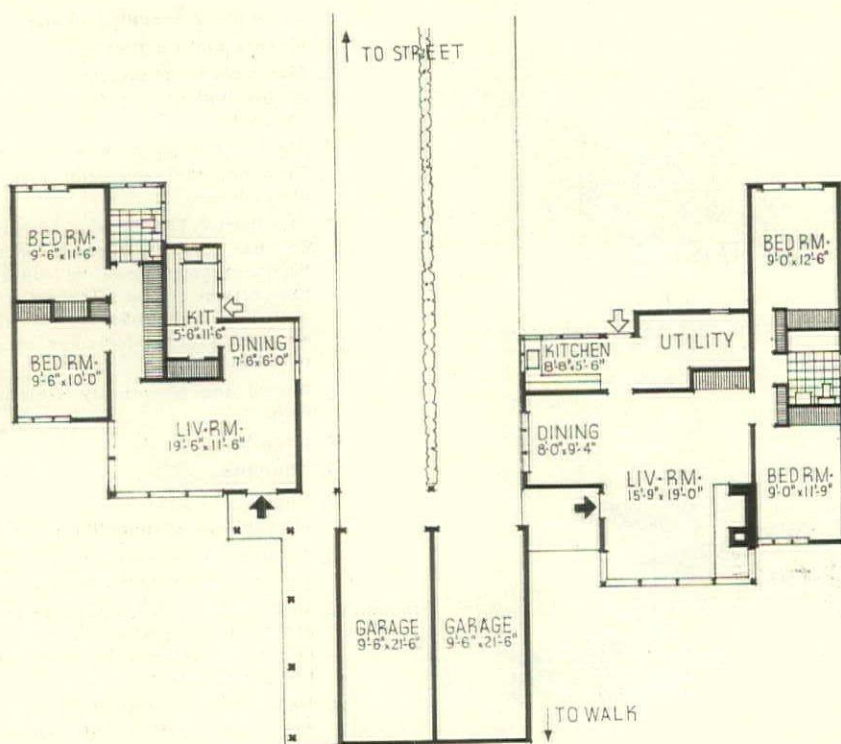
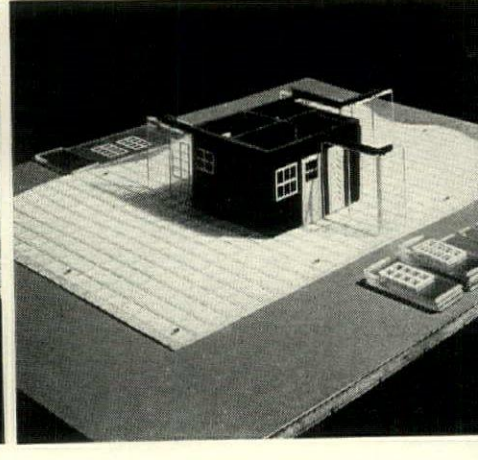
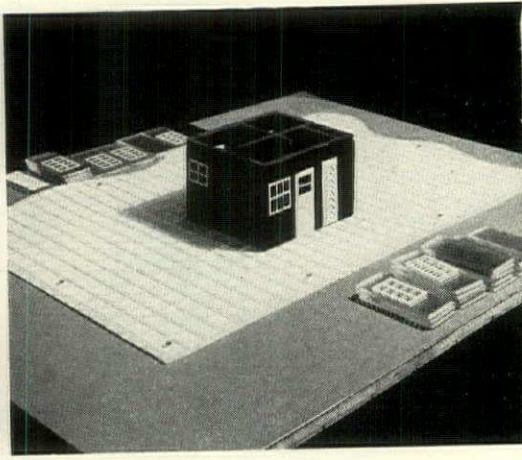
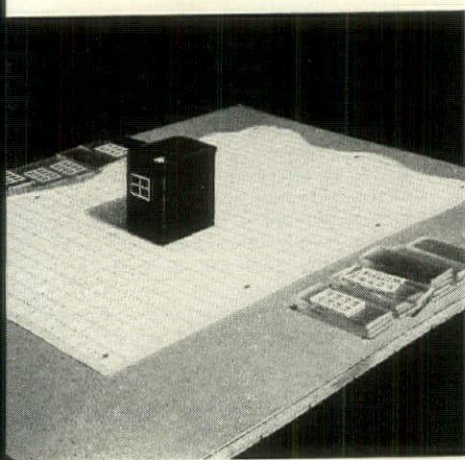
The design of the community's main shopping center is based upon 100 per cent pedestrian use, with cars parked on the edges of the group. By means of this approach, the scale of the area is again brought down to human proportions. It offers an opportunity for charm, intimacy and the plain comfort associated with ancient cities, which were developed on the premise that each part be accessible to the pedestrian.

Climatic conditions in this region are such that covered walks are highly desirable. With this plan the resident can park his car within a few steps of the center and do all shopping under cover.

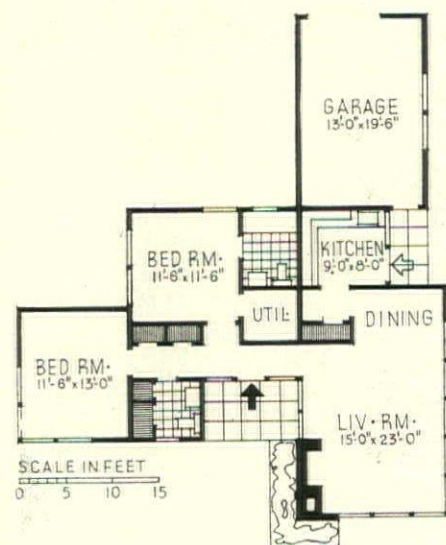
Elements of the plan of the central area are:

1. City hall, municipal auditorium and municipal offices.
2. Central high school, for about 1,000 students.
3. Community shopping center.
4. Moving picture theaters.
5. Motor court for tourists, located on the highway on the edge of the park.
6. Main downtown service station.
7. Terminal for local and inter-urban buses.
8. "Heliport." The Greyhound Bus Co. has already applied for a license to operate a helicopter bus service. The prospect of such service seemed sufficiently close to warrant inclusion of a terminal.
9. School and community athletic field.
10. Hospital.
11. Churches.
12. Clubs.
13. Neighborhood shopping center.
14. Elementary schools (there is one in each neighborhood).
15. Golf course. This would be located in the protective greenbelt to be established south of the community.
16. Park. This is an existing grove the preservation of which seemed highly desirable.

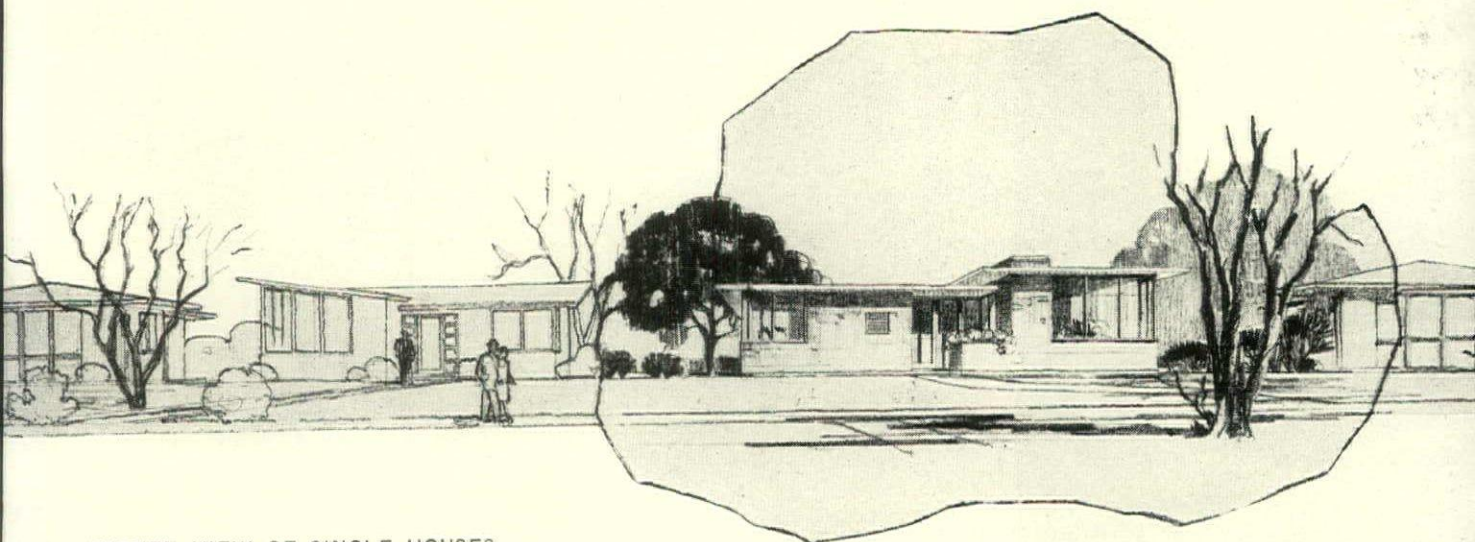




SUGGESTED PLACING FOR TWO SINGLE HOUSES

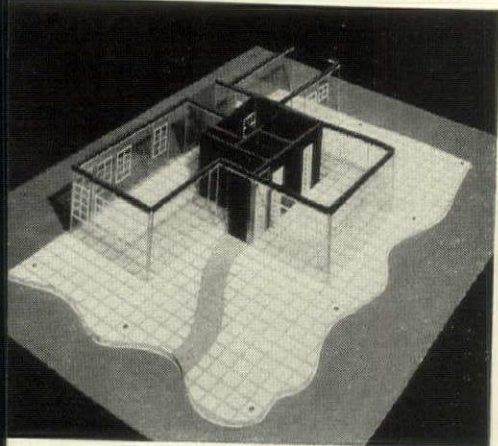


ONE-FAMILY, ONE-STORY HOUSE

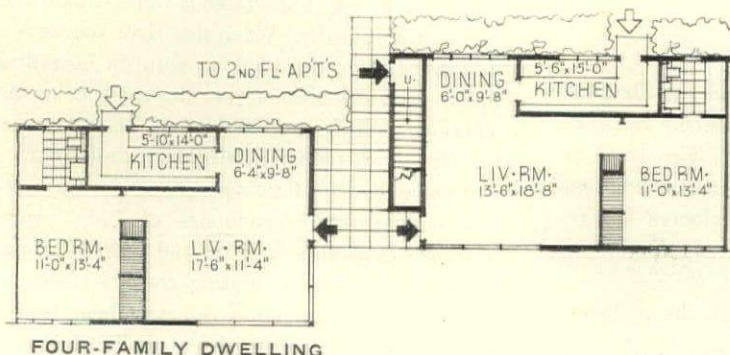
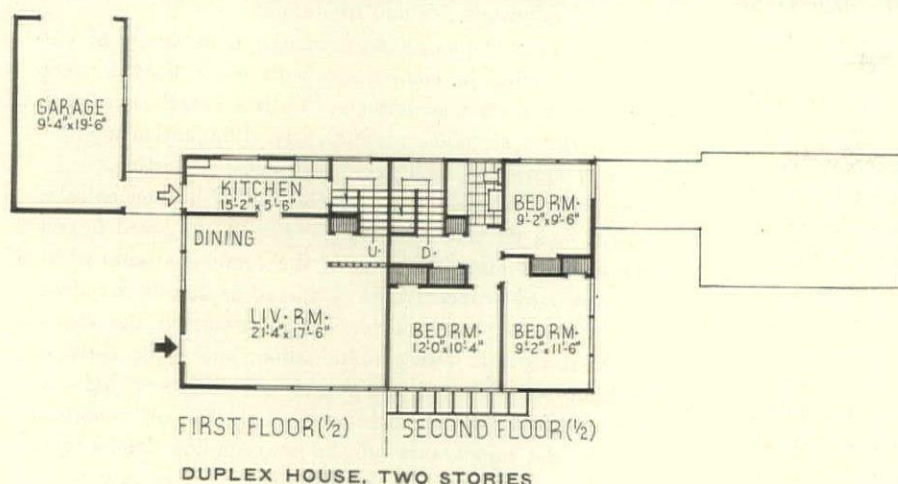
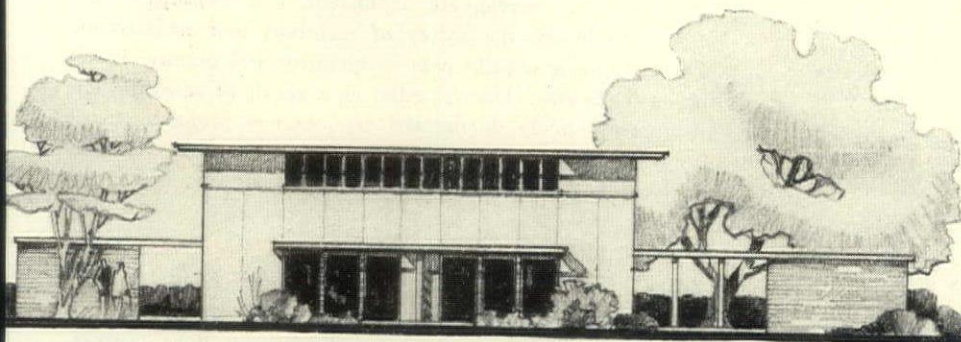


STREET VIEW OF SINGLE HOUSES





**THE STRAN-STEEL HOUSE** is designed around structural panels, separate collateral panels for interior and exterior finish, and four basic "service core" units. The model photographs help explain the elements of the system, which is based on a 4 ft. cube module. Great flexibility, as regards finishes, roof construction and fenestration, is possible with the system. All plans and sketches were made by the architectural staff of the Stran-Steel Co.



### ESTIMATED COSTS

#### LAND

By Purchase—1,600 A. (1.0%) \$320,000

#### BUILDINGS

##### Dwellings:

Single & Double (3,950 D. U.) 18,385,000  
Row & Apt. (832 D. U.) 2,471,000

Total (64.5%) 20,856,000

##### Commercial:

Shops 216,000  
Theaters 198,000  
Miscellaneous 363,000

Total (2.4%) 777,000

##### Community:

Schools 685,000  
Churches 250,000  
Hospitals, etc. 408,000  
Sports Stadium 60,000

Total (4.3%) 1,403,000

##### Municipal:

City Hall 120,000  
Fire & Police 105,000  
Garbage Plant 70,000

Total (0.9%) 295,000

Total Buildings (72.1%) 23,331,000

#### UTILITIES

Sewerage 900,000  
Water 700,000  
Electricity 1,580,000  
Telephone 750,000  
Gas 800,000

Total (14.6%) 4,730,000

#### PUBLIC WORKS

Roads 1,997,000  
Sidewalks 822,000  
Grounds (Residential) 643,000  
Parks (Public) 500,000

Total (12.3%) 3,962,000

#### ENGINEERING, ORGANIZATION, INCIDENTALS

3,882,000

TOTAL (4,782 D. U. @ \$7,576) \$36,225,000



# STREET AND HIGHWAY LIGHTING FOR 194X

Richard C. Engelken outlines the engineering requirements of good outdoor lighting, reviews existing systems, and suggests the direction future progress in street illumination will take.

Karl Reutter



**RICHARD C. ENGELKEN** acted as consulting engineer on illumination for the World's Fair. He recently returned from Hawaii where he installed special equipment for the Army Air Forces. Before leaving the U. S. he planned the illumination and electrical design for such large institutions as the Carnegie Institute Art Gallery and the President's new Staff Room in Washington.

**T**HOUGH the volume of night traffic is only about one third that of the daylight hours—more than 60 per cent of traffic accidents occur after dark. The hazards of night driving are approximately three times greater than those of daytime driving, and usually the accidents are more tragic in their consequences.

When wartime dimout regulations became effective, with their attendant curtailment of illumination, traffic accidents increased—despite the fact that there was a decrease in the number of cars on the highway: adding credence to the relationship of lighting to safety. Experience has also proven that the replacement of an inadequate method of lighting by a more modern system results in a marked decrease in traffic accidents at night.

The requirements of an adequate system depend primarily upon the nature of the street or highway; the volume of traffic at night; and the characteristics of the surroundings. Simply to increase the intensity of an obsolete system will not correct the situation, as proper direction and distribution of the light is also essential. Powerful headlights are not a solution of the problem because of their blinding effect on other drivers. Glaring fixed light sources also hamper vision. Then, too, critical locations such as curves, hill crests, intersections, etc., require special treatment. All these and other factors enter the problem, and therefore a detailed and analytical study, with an understanding of the basic engineering principles of illumination, is the primary step toward adequate lighting.

## ENGINEERING REQUIREMENTS

The engineering requirements for effective street illumination are presented in the Illuminating Engineering Society's *Recommended Practice of Street Lighting*.<sup>\*</sup> The Institute of Traffic Engineers has endorsed these recommendations and the American Society of Municipal Engineers has reprinted them in full in its 1942 *Public Works Engineers' Yearbook*.

Past street lighting projects which have been assets

<sup>\*</sup>See *Illuminating Engineering*, Vol. XXXVI, Jan., 1941, p. 17.

to their communities, and a credit to their designers, have with few exceptions been those which rated high in visibility provided per dollar of total lighting cost. Municipal tax prospects indicate no change in the prime importance of this criterion in the postwar period.

In general, most existing street and highway lighting installations are inadequate, inefficient, and improperly designed to insure the safety of motorists and pedestrians. The lighting is usually poor in quantity and quality, in relation to its cost. Undoubtedly, as a result of scientific advancements made during the war, and a probable trend toward major public developments after the war, vast improvements may be expected in the postwar era.

## EXISTING LIGHTING SCHEMES

The principal and more recently developed types of street lighting units, successfully used in prewar installations, include incandescent, sodium, and mercury light sources. Each has its advantages and limitations.

Incandescent filament lamps, though more costly in current consumption in comparison with other light sources, offer certain distinct advantages. Their spectral emission is uniform and continuous, producing an illumination which is generally agreeable with very little color distortion.

The source is easily controllable due to its concentrated filament, and the filament may be shaped and sized to conform with the optical system of the luminaire with which it is to be used—concentrated or spread as may be required.

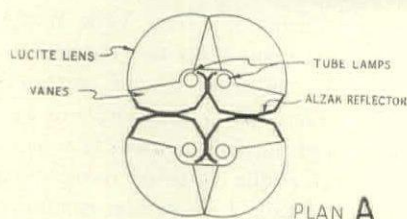
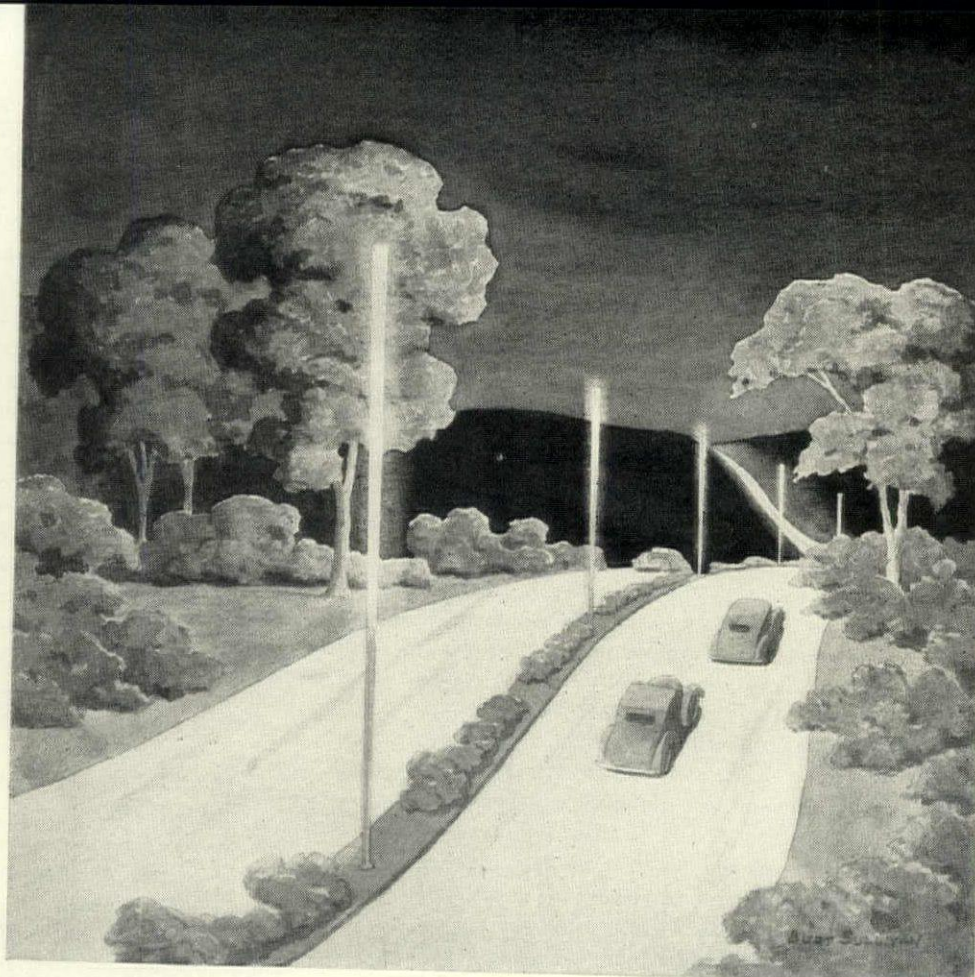
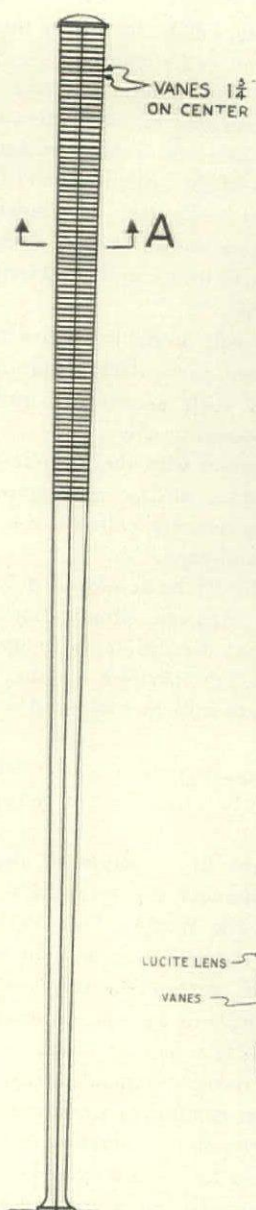
Sodium vapor light sources have introduced the effects of colored light in street illumination, and some consider this light source more comfortable for highway lighting. However, the yellow monochromatic light has an unnatural effect on the appearance of the surrounding landscaping and human pigmentation. Another disadvantage is that the large, gaseous form of the sodium source is not readily controllable with existing optical equipment. Thus, lighting schemes with long pole spacings result in a somewhat spotty and glary distribution.

The mercury vapor lamp emits a bluish green light with practically no red in its spectrum and therefore it has to a lesser degree the same disadvantages as the sodium source. modifying the appearance of natural colors. The mercury source is also a large gaseous light stream which is difficult to control optically. When this light source is used properly, however, i.e. in combination with an incandescent source, a fairly good distribution and desirable color emission can be obtained. Such a combination offers a reasonable compromise in distribution, efficiency, and color.

Choice of an illuminant depends on several considerations—the overall economics of light production, source dimensions as affecting size and form of luminaires, color of light, starting and operating characteristics, etc.

The proper size lamp is determined from the values in the table of recommended footcandles (page 102) and from

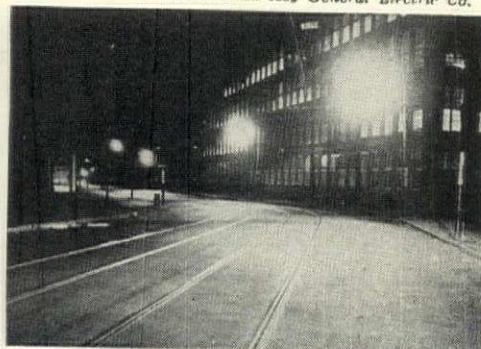
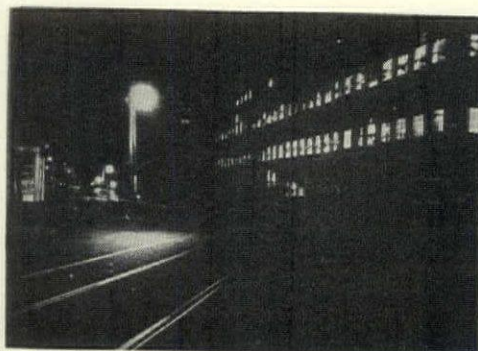




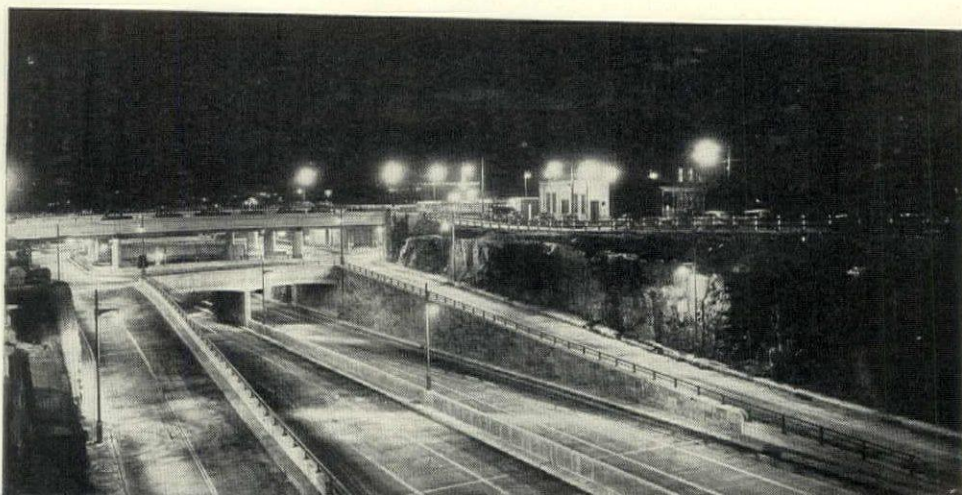
**POSTWAR** lighting unit designed for fluorescent lamps. Standard supports four large lamps in vertical position, set behind reflector-vanes designed to increase the horizontal light-spread. A unit of this type might be used to light up the landscaped area on either side of the parkway, thus decreasing the contrast-ratio between the pavement and its surroundings and improving visibility, as well as making night driving more interesting and attractive.

*Photos courtesy General Electric Co.*

**BEFORE AND AFTER** views of a typical street lighting modernization. New lighting arrangement employs luminaires hung from 6 ft. right-angle brackets, height  $22\frac{1}{2}$  ft., on 120 ft. centers, staggered.



**HIGH INTENSITY** lighting, typical of modern practice for important traffic intersections, at New Jersey approach to the Lincoln Tunnel. Units employ 10,000 lumen sodium-vapor lamps.





photometric data on the chosen luminaire. Most manufacturers supply such information in a form which can be readily applied to given conditions of mounting height, spacing, street width and transverse position.

Past experience in street lighting, as in indoor lighting, has shown the value of providing excess capacity in transformers and circuits for future increases in lamp size.

**MOUNTING HEIGHTS AND SPACING**

Spacing is necessarily related to mounting height—what counts is the ratio between the two factors. For lower mountings, a greater number of luminaires and standards will be required to achieve a given uniformity of distribution, increasing the cost. This places a premium on an acceptable design for taller installations.

The optical design of the luminaire is dictated by the mounting height selected. In each case the complete system should represent an appropriate balance between the conflicting considerations of uniformity of illumination, glare, cost and appearance.

Luminaires which distribute the light for a good distance up and down the street, used on streets carrying only local residential traffic, may be positioned at a spacing-mounting height ratio of 10 to 12. Luminaires with less widespread distribution are intended for arteries carrying a moderate volume of traffic, at a spacing-mounting height ratio of approximately 8. Luminaires giving still shorter spreads of light are designed for heavy-traffic arteries, at a ratio of about 5 or 6. Well-shielded luminaires always require a ratio of 5 or less.

Mounting heights above those typical of present installations will reduce glare substantially. This improvement in practice is particularly needed where larger lamp sizes are employed. In general, mounting heights of 25 ft. or even higher will do the best job under most conditions. Mounting heights below 18 to 20 ft. produce inevitable functional deficiencies.

**POSTWAR POSSIBILITIES**

When peace comes, modernization will have a new meaning. Postwar plans already conceived foreshadow many changes and improvements. The results of intensive research now devoted to the war effort will be adapted to future peacetime developments. A fresh viewpoint and new technique will be directed toward the street lighting problem—and more effective illumination will be devised to operate with greater efficiency and economy than many of the present systems.

The probable growth in motor vehicle traffic and a tendency toward higher speeds will make effective lighting of highways of immediate importance. Such factors as the width and character of the highway; density and speed of traffic; required intensity and distribution of light; elimination of glare; and other technical considerations will receive

deserving attention. Though safety will be the major theme, the esthetic possibilities will no longer be ignored.

For example: shrubs, trees, and plantings along the highway will undoubtedly be illuminated in conjunction with the roadway so as to result in a more desirable distribution of brightnesses, and the beauties of the adjoining landscape will be enjoyed by night as well as by day. In residential areas, the light will be shielded from the windows of sleepers. Also, individuality will be given to towns by characteristics inherent in their lighting systems.

Sodium lamps when modified will probably receive more general acceptance since they are particularly appropriate at locations of unusual hazard such as bridges, railway crossings, underpasses, road intersections, etc.

The mercury lamp, in combination with the incandescent, producing the effect of white light, will be used more extensively, especially where requirements call for the illumination of the surrounding landscape.

Fluorescent lamps will undoubtedly be developed in a new form for street lighting and highway illumination. At present there are certain inherent disadvantages including:

- 1. A relatively small amount of light per foot of tube.
- 2. The necessity of jacketing them in winter to avoid serious loss of light.
- 3. Source dimensions which require reflectors of relatively large cross section, in order to gain effective control of the light output.

Other light sources will undoubtedly be improved and put into practical use such as the mercury vapor capillary lamp (developed during the New York World's Fair 1939-40), and there is the possibility that the cold cathode light source and some of the other gaseous conduction lamps with a more desirable spectral emission, will become available.

Shielding of the light sources is a feature which has met with general public favor in wartime dimout areas. The advantages so gained are greater comfort to street users and to occupants of abutting property, and a reduction in loss of visibility resulting from glare—a loss which exceeds 50 per cent in many installations. These advantages are well known to the profession but shielding requires substantially closer spacing if dark areas between lamps are to be avoided. Types of luminaires with full or substantial shielding are therefore more likely to be used on main arterial streets where relatively short spacings are in any event required to provide enough illumination. If used on relatively long spacings such as prevail on highways, the lighting would be decidedly spotty.

The use of new plastic materials with their high refractive indices and the new metal alloys of aluminum and magnesium offer the designers many possibilities. Also the methods of control will undergo a distinct rearrangement, probably utilizing some of the recent electronic developments.

With the development of these new light sources, plastics, and metal alloys, the lighting unit of the postwar era will probably take on a new form—more harmonious and decorative, instead of the usual cast iron pedestals inherited from the gas light era and still in use. The support itself may become a luminous pylon and help serve to distribute the light along the highway. They can be designed as a harmonious lighting units from both an esthetic and practical point of view. With substantial investments in a highway beautification, it is a reasonable policy to assign a properly proportioned amount for effective lighting.

**FOOTCANDLES — STREET ILLUMINATION FOR SAFETY**

Street Classification	Vol. of Vehicular Traffic (max. night hour both directions)	On Street Between Curbs		Curb to Prop. Line
		Aver.	Min.	
Very light traffic	Under 150	0.1	0.02	0.05
Light traffic	150-500	0.2	0.05	0.05
Medium traffic	500-1,200	0.4	0.1	0.1
Heavy traffic	1,200-2,400	0.8	0.2	0.25
Very heavy traffic	2,400-4,000	1.2	0.3	0.25
Heaviest traffic	Over 4,000	1.5	0.4	0.25



# SUBURBAN GROUP, 24 HOUSES, SIOUX FALLS

4

South Dakota team designs a small development for a small town, with four basic house types and plenty of open land for individual gardens.

Photos: E. Kroeger



LEADERS, SPITZNAGEL, McDOWELL

GERTRUDE WEBSTER, L. A.;  
Site Design

PALMER EIDE; Model

R. W. DALTHROP, C. E.; Survey

EVERETT KROEGER; Photography

**ARCHITECT HAROLD SPITZNAGEL** was born in Sioux Falls, S. D. in 1896. After studying two years at the Art Institute of Chicago he served a year in the Army and then continued his studies at the University of Pennsylvania. He was graduated from there in 1925 and awarded the School Medal of the A.I.A. Until the opening of his present office in 1930 he was employed in architectural offices in Indianapolis and worked for Schmidt, Garden & Erikson in Chicago. In 1934 he served a year as Chief Architect for the FHA in the state of South Dakota. At present he is associated with Lankton & Ziegele of Peoria, Ill., on a FPHA project for the Black Hills Ordnance Depot.

**BANKER PIERCE McDOWELL** was born in Minnesota in 1902. After receiving his LL.B. degree from the University of South Dakota he practiced law. When a year later he became associated with the Northwest Security National Bank, a member of the Northwest Bancorporation group, he gave up active practice. In 1935 he was made Director and Vice President of the bank, the position which he holds today.

**CONTRACTOR E. J. LEADERS** was born in South Dakota in 1901. After experience in the field with a local contractor he became associated with L. D. Wait Construction Co. and held the position of vice president. Since its organization in 1930 he has been president of the Leaders Construction Co. now engaged in building a group of 39 defense houses.

## THE SITE

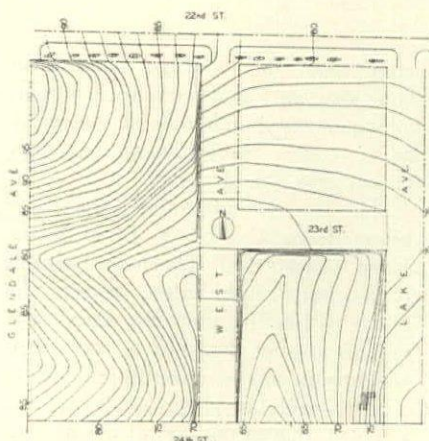
The selection of a site for development as a "postwar protected neighborhood" was something of a problem in itself. An investigation disclosed that there was a very limited number of properties where public utilities were readily accessible. Due to the size of the project (only 24 houses) it was imperative that the site contain the needed water and sewage facilities.

Protection in itself constituted no great problem. In a city the size of Sioux Falls, where there are few industrial plants, the question of elaborate screening for residential areas rarely comes up. The same is true of protection from traffic, which is congested only in a small downtown area. It should also be added that protection in the sense of controlled commercial

developments is entirely outside the scope of a project of two dozen houses.

The site finally chosen comprised four city blocks of approximately ten acres, and while the variations in grade did not make the team particularly happy, it was the only property of the required size which seemed to meet the program. It is within a ten minute drive of the central business district. Churches, schools and a shopping center are all within a mile of the site. The Government intends to erect a Veterans' Hospital three blocks west of the proposed development, and some of the houses might well be suitable for employees of this institution.

The team agreed that the postwar period would present a demand for a better than average type of small home.







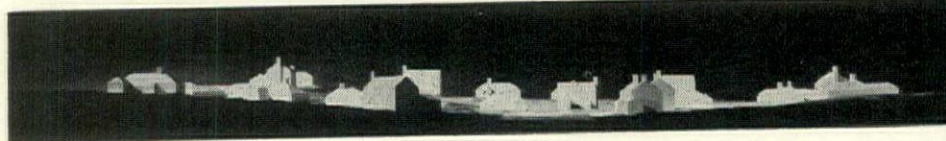
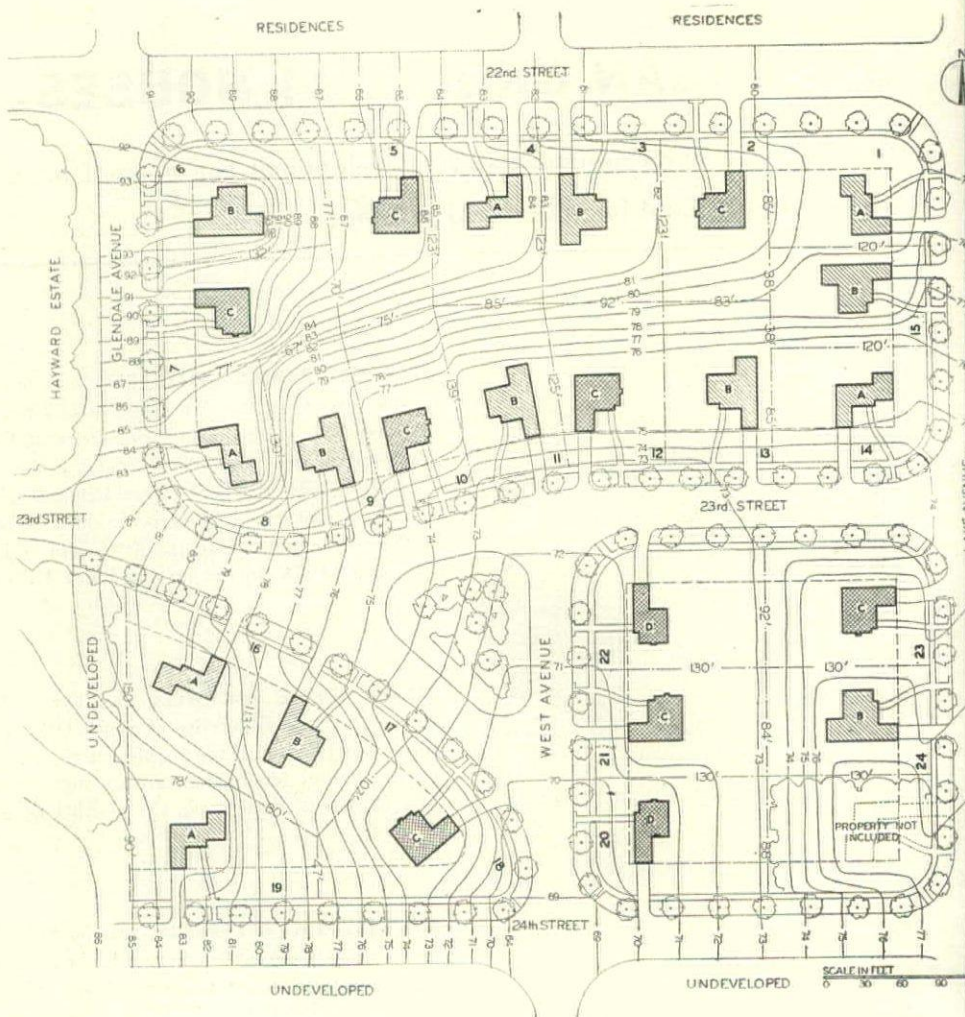
VIEW FROM SOUTHEAST



CENTER, LOOKING WEST



VIEW EAST AT CORNER



SOUTH ELEVATION

and they were of the opinion that the market would be glutted with houses whose quality and size would eventually class them as "war babies."

The banker and contractor were insistent that the houses have full basements and pitched roofs. Reasons given were climatic conditions and public preferences. Flat roofs, mono-pitched roofs, carports and extensive plate glass areas were all considered out of bounds. The architect felt that there was room for argument but not the time for it, and the project went ahead on this basis. On the other hand, he had no difficulty convincing his collaborators that the garage and service areas should be located on the street side within a car length of the walk, with living rooms and dining alcoves facing

the garden. No objection was made to the placement of windows as required by the plan, without regard to vertical alignment. The mixture of gable and hip roofs was also accepted. Conventional construction was followed, partly because of costs and sales appeal, but chiefly because no one knew what kinds of unconventional construction would be available after the war. It did not seem reasonable to any of the team to set up a commercial development on the basis of unknown factors.

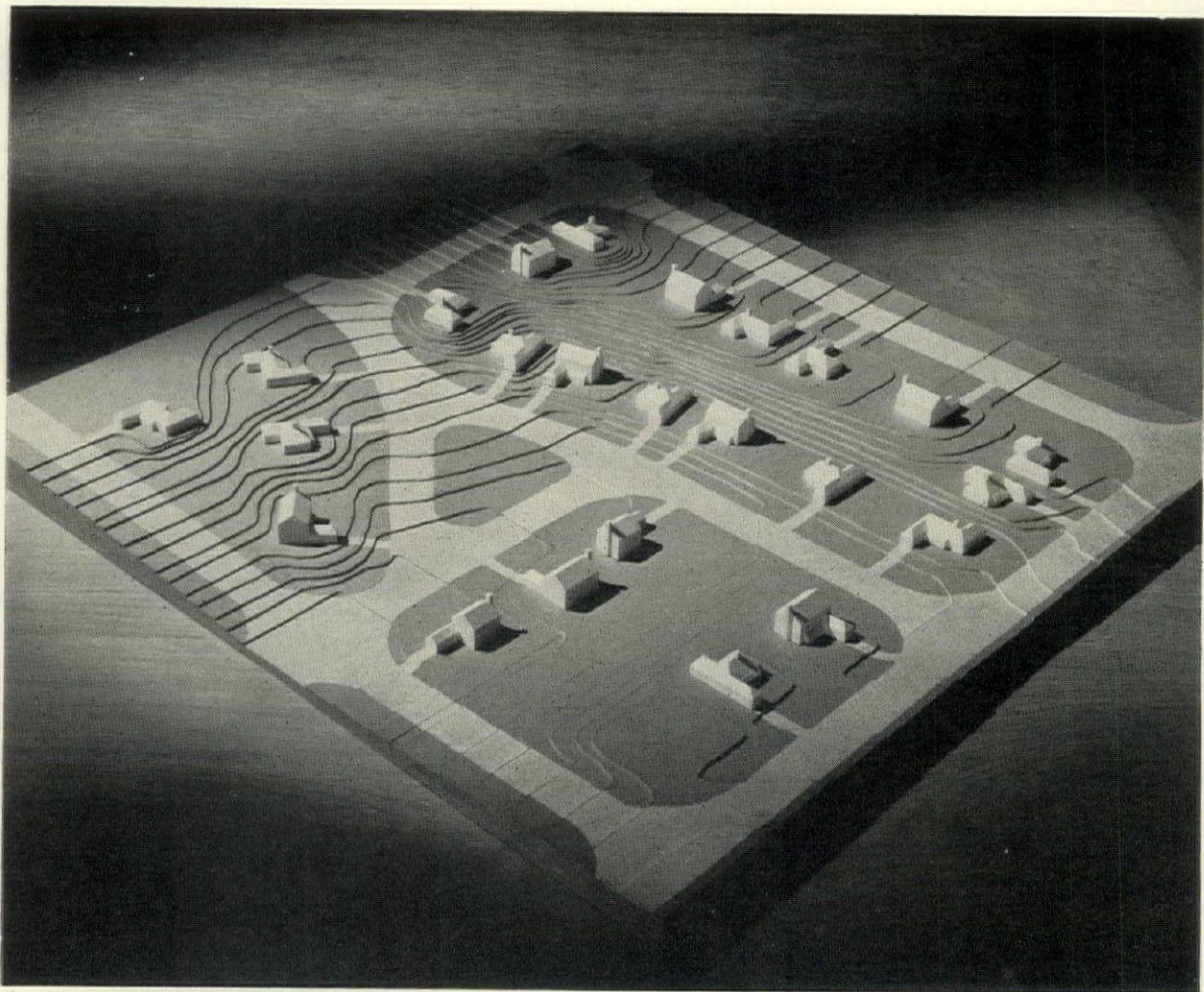
No great stress was placed on the minor exterior variations so popular with prewar operative builders. The usual trick entrance details, shifts in exterior materials and changes in roof textures are absent, and their lack, in our opinion, represents an improve-

ment over the average subdivision. This step in the direction of a more homogeneous neighborhood design is by no means revolutionary, but then, neither was the program.

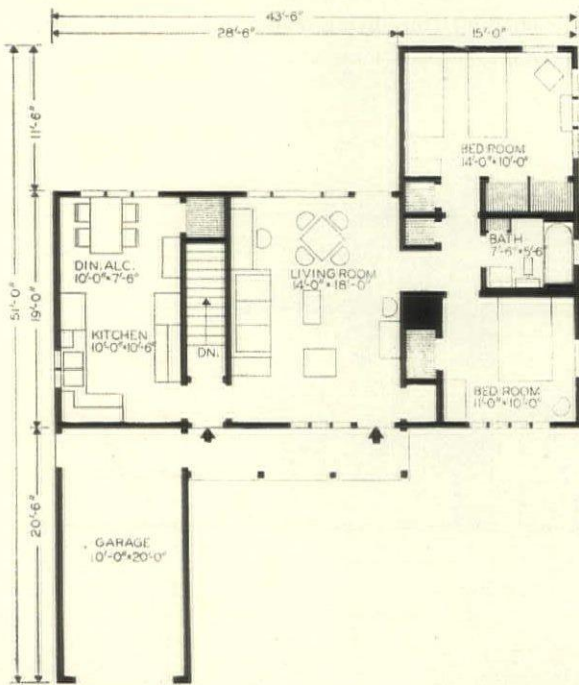
The site as ultimately developed differs from the city's street layout shown on page 103. It seemed desirable to eliminate right-angle corners for streets within the property, since automobiles are not designed to travel conveniently in this manner. Neighborhood features such as playgrounds are not included, due to the size of the project. There is ample land around the houses anyway. The only common element is the small triangle created by the roads. Its function is merely to give a sense of openness to the center of the project and a pleasant outlook to the houses.



EAST ELEVATION

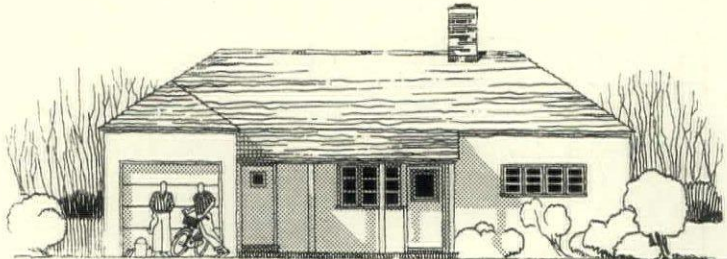


MODEL, VIEWED FROM SOUTHEAST, SHOWS VARIETY ACHIEVED WITH FOUR BASIC HOUSE TYPES

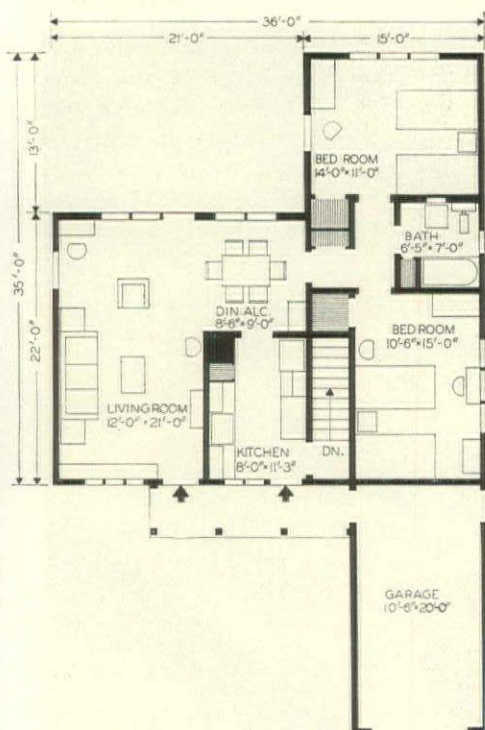


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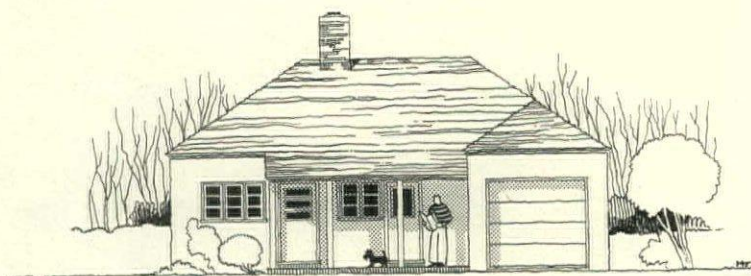
**HOUSE A** is a single-story, two-bedroom design developed on the basis of use of the kitchen-dining room for all but the most formal meals. Both "front" and "back" doors are at the front of the house, opening off an entrance porch, which also serves as a covered connection with the attached garage without necessitating use of a fireproof door. Stairs to the basement are provided, opening out of the service vestibule. The bedroom-bathroom area is isolated from the living room by a continuous row of closets (also containing the flue for the heater). This serves as a sound barrier, and also creates a good spot for the living room coat closet, next to the main entrance.



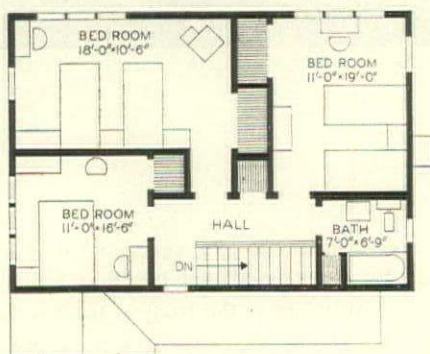
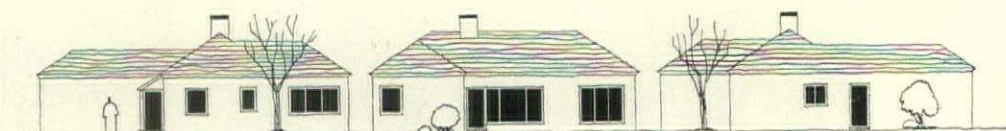




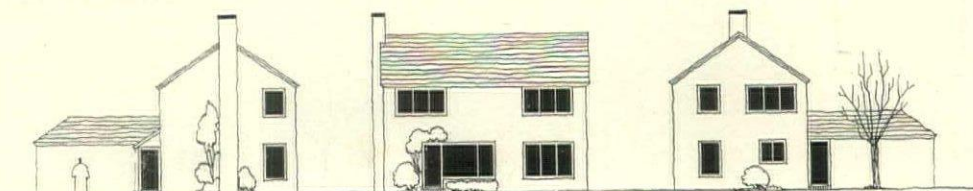
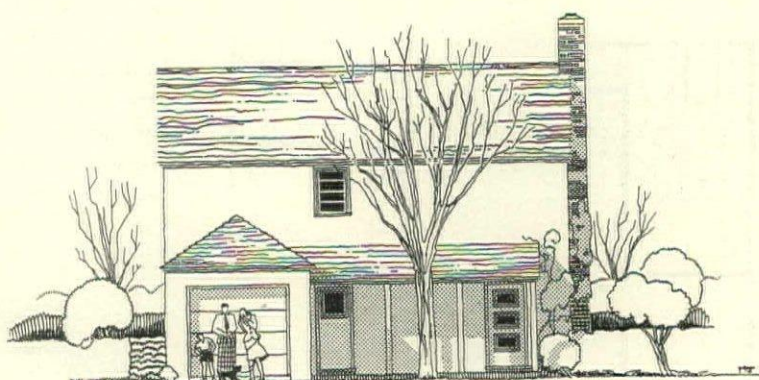
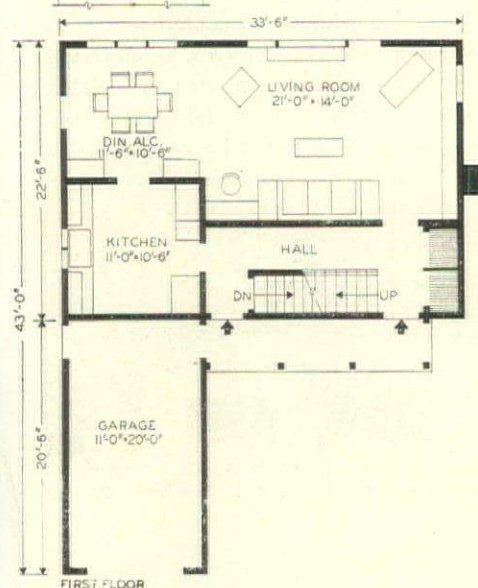
**HOUSE B**, an alternate for Type A, provides the same accommodations in much the same way. In this plan, however, the kitchen is located between the living room and bedrooms, and the dining area becomes a part of the living room rather than part of the kitchen. The service entrance is at the front, as in all of the houses, and in this plan opens directly into the kitchen from the entrance porch. Front kitchens and garages were accepted by the builder-banker members of the team, although they insisted upon conventional treatment of the house exteriors. There was no insistence, however, on a particular style.



SCALE: 1/16" = 1' - 0"

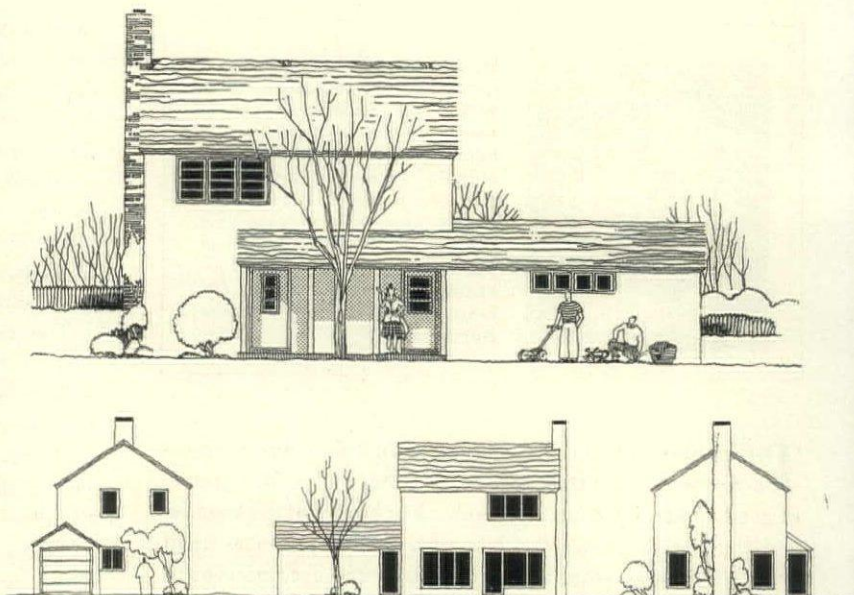
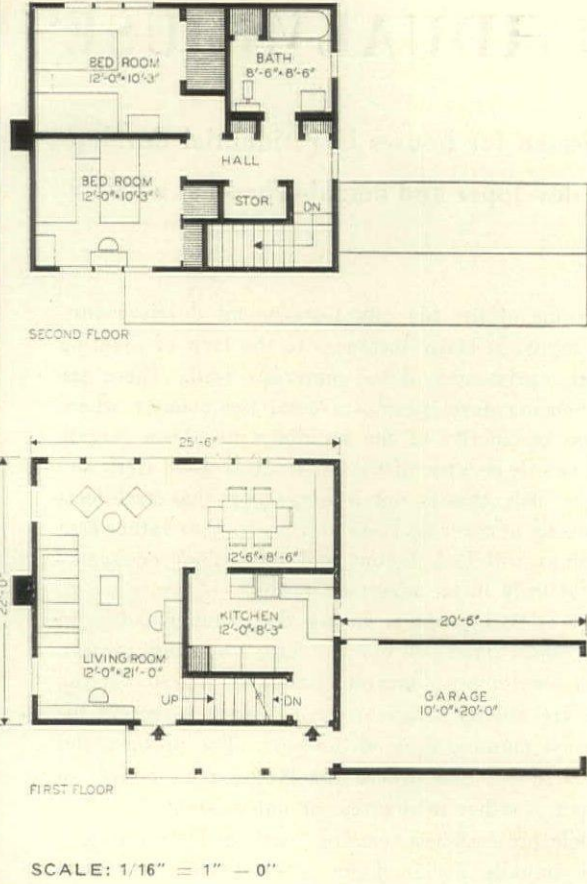


**HOUSE C**, the first of the two-story, three-bedroom types, employs a generous front hall with the stair running parallel to the front of the house. This arrangement produced an excellent relationship between the rooms, and between rooms and service elements, and put almost all of the main windows on the back, where they enjoy the best view. Exterior treatment is simple and conservative, and subject to a number of interesting variations, including opening up the stair hall with a large window. By combining the living and dining areas, what amounts to a 32 ft. living room was achieved.





**HOUSE D** is an unusually compact plan designed for those who want a low cost, two-bedroom plan but prefer a house on two floors. Fundamentally, the arrangement is similar to House C, but a good deal of space has been saved on the first floor by the elimination of the front hallway, so as to bring down the area to that required by the two bedrooms above. In some respects this is the best of the four plans. It is capable of interesting variations by altering the arrangement of the garage, and may be located in various ways on the lot.



ESTIMATED COSTS AND TYPICAL SELLING PRICES

Inside Lots								
House Type	Lot No.	Av. Lot Sq. Ft.	Land Cost	Street Improv'm't	Land-scaping	Total Lot Cost	House Price	Total Price
A	4	10,710	\$750	\$459.75	\$300	\$1,509	\$6,100	\$7,609
B	3	11,385	\$800	\$484.50	\$300	\$1,584	\$5,998	\$7,582
D	5	10,530	\$735	\$459.75	\$300	\$1,494	\$6,974	\$8,468

Corner Lots								
A	B	C	D	1	6	18	20	
				9,990	10,446	12,600	10,980	
				\$700	\$730	\$882	\$770	
				\$729.00	\$728.75	\$833.00	\$709.00	
				\$300	\$300	\$300	\$300	
				\$1,729	\$1,758	\$2,015	\$1,779	
				\$6,100	\$5,998	\$6,974	\$6,245	
				\$7,829	\$7,756	\$8,989	\$8,024	



VIEW AT CENTER OF PROJECT SHOWS THE OPEN EFFECT OF COMBINING COMPACT PLANS WITH GENEROUS LOTS



# LANDSCAPING THE INDIVIDUAL HOUSE

M. Betty Sprout tackles the neglected problem of planting design for houses in residential developments. Result: a simple scheme that will work for the owner, developer and neighborhood as a whole.

Myron Ehrenberg



**M. BETTY SPROUT** has been in landscape architecture since 1928. Her work has ranged from private estates to big housing projects, the latter including Metropolitan Life's Parkchester and Parkfairfax. Other jobs: several New York City parks, the Henry Hudson Parkway. She is at present associated with the office of Gilmore D. Clarke and Michael Rapuano.

THE history of house landscaping in this country shows a range of competence and taste that takes in extremes of good and bad. Country and suburban houses of the twenties and the period before the last war, inappropriate as their architecture may seem to the contemporary eye, were often landscaped with superlative skill and foresight. This occasional excellence, however, did not extend very far down the economic scale. Most houses were, and are erected without benefit of architect: the landscape architect participated in an even smaller proportion of the total number.

"Landscaping," for the average small house, commonly consists of placing a couple of scraggly evergreen spikes on either side of the front door, the use of a certain amount of "foundation planting," which often does more harm than good, the installation of some scattered shrubs and some perennial flower beds. In the hands of operative builders, with a few notable exceptions, planting has been reduced to the barest minimum.

Of late years there have been some signs of a trend towards improvement, particularly in the large projects carried out for middle and low income groups. In the East, for instance, there are the two large developments constructed by the Metropolitan Life Insurance Co.: Parkchester, an apartment house community in the Bronx, N. Y., and Parkfairfax, a project in Virginia which is based on the use of smaller dwelling units. In both of these jobs (and other examples could be found) detailed planting plans were prepared in conjunction with the other plans, thus assuring for each building and the entire property a complete planting composition. Each scheme was carried out within a stipulated cost limit, was related to soil and exposure conditions, and it was planned to produce the desired forms, mass and color effects.

Parenthetically, it might be said at this point that the highly critical attitude taken towards many housing projects,

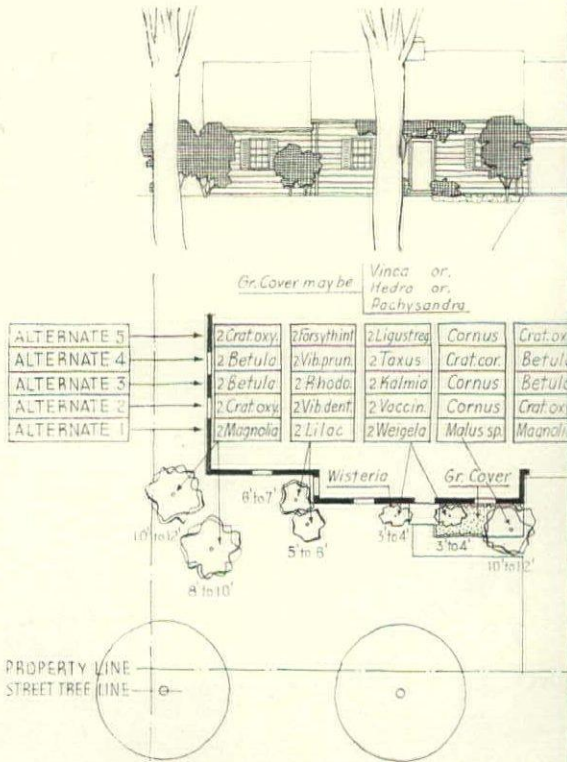
especially some of the big city Government developments, can be attributed in many instances to the lack of planting or the inappropriateness of the materials used. There are plenty of housing developments around the country where the essential mediocrity of the buildings has been largely overlooked simply because of the existence of good trees and shrubs. Obviously this is not a suggestion that architects use landscaping to cover up their own errors, but rather that good buildings will look better, and serve their occupants more satisfactorily in an adequate setting.

The most critical problem facing the planner today, in respect to landscaping, is not the large housing project. Where such developments are undertaken by private capital, the owners are usually sufficiently enlightened to accept the fact that good planting is good business. The problem lies in the small house field, where the landscaping budget of the developer is either inadequate or non-existent.

This article presents a scheme of "packaged" landscaping which was actually designed for a subdivision of David Swope in Westchester County, N. Y. It offers one solution whereby the services of a landscape architect are made available to each house owner through a basic, flexible plan prepared for the developer. Its essentials are illustrated in the drawings below.

The scheme is an exceedingly simple one. In the Swope

**PLAN AND ELEVATION DIAGRAMS** at the right show four houses, identical in plan. For each of the houses, a different planting plan has been prepared, and for each of the plans there are five alternate lists of plant materials, providing a total of twenty different combinations from which a selection can be made. Elevation diagrams show Alternate 1 for each plan.





project, for example, general community planting was to be handled by the developer. For the planting of individual houses four plans were prepared, each differing from the others in the placing of the shrubs, vines and other plants. For each of these plans there were five alternate lists of plant materials. Consequently each owner had an actual choice of twenty schemes, many more than he would normally dream of considering.

While the variety of possible selections gave the utmost freedom of choice, the plant lists prepared were also so arranged that whatever the selection for a given house, the treatment of the entire group of residences was bound to be harmonious. Use of these packaged plans made it most unlikely that only one house would have a forsythia, or a lilac, or any other distinctive flowering shrub. The packages also allowed for considerable latitude in budgeting, for they range from the moderately expensive shrubs to the very cheapest. A final advantage is that in no one of the twenty combinations is it possible to get an arrangement in which one plant clashes in form or color with another, thus avoiding the commonest mistake made by the amateur landscaper.

In the elevation sketches below, which show the same house repeated four times, each of the four plans is illustrated. The silhouettes indicated are those which would result from a use of Alternate 1 throughout. Anyone who wishes to see what changes would be produced by using materials provided in the other alternates may do so by referring to the planting chart on page 110.

It is interesting to consider a few of the many effects that may result from the various combinations and permutations of the given units.

For example, let us picture the effect derived from the possibility that all of the home owners selected different planting arrangements, but the same alternate—say Alternate 1. The result would be that the following shrubs would

be scattered through the community, each type blooming in different locations at the same time:

(a)—Saucer Magnolia (*Magnolia soulangeana*), one of the most handsome of small ornamental trees, with lavish, fragrant rosy-purple blooms in spring and rich foliage later in the season.

(b)—Flowering Crab apples (*Malus floribunda* and *Malus spectabilis*), important for their smooth, shiny leaves and showy fall fruits. The abundant pink blooms which appear in late May provide a striking picture in association with

(c) the long clusters of purple Wisteria (*Wisteria sinensis*), and

(d) Lilacs (*Syringa vulgaris*), whose fragrant lavender masses combine so handsomely with

(e) Pink Diervilla (*Weigela rosea*) which also blooms in June.

If some other alternate were selected, new materials would come into the picture. For example,

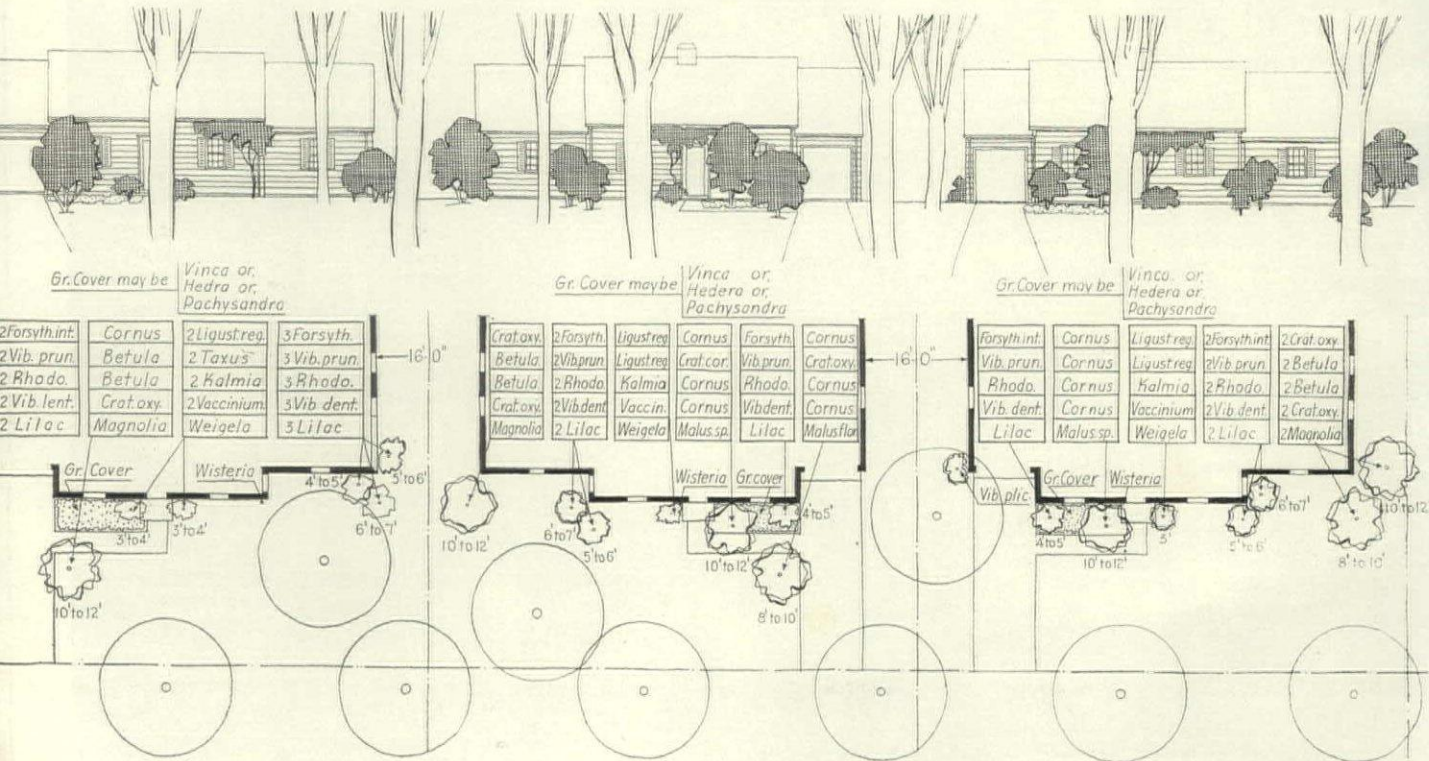
(a) Rosebay (*Rhododendron maximum*) and

(b) Gray Birch (*Betula populifolia*) whose graceful white stems provide so refreshing a note the year around, particularly in association with rhododendron and

(c) Mountain Laurel (*Kalmia latifolia*), which has very showy June blossoms and evergreen foliage, and

(d) Flowering dogwood (*Cornus florida*), as brilliant in the fall as in spring.

While the universal selection of any one of the alternates would produce a very striking general effect, such an occurrence is, of course, most unlikely. In the more probable event that a variety of plans and planting alternates were chosen, the effect would be more subtle and undoubtedly even more effective. The intrinsic value of the packaged plans lies in the fact, as already suggested, that the resultant effect will be a unified, harmonious planting composition for the entire neighborhood.





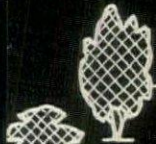


















# PLANT MATERIAL

Selected for residential neighborhoods

M. BETTY SPROUT, LANDSCAPE ARCHITECT

## DESIGN DATA 6.

THE ARCHITECTURAL FORUM

	Botanical Name	Common Name	Heights, Planting	Heights, Maturity	Soil Preference	Color, Bloom	Season, Bloom	Color, Fruit	Foliage in Autumn	Remarks
	BETULA populifolia	GRAY BIRCH	10'-12', 8'-10'	35'-40'	Porous, sandy soil	—	—	—	Yellow	White bark with gray patches. Multi-stemmed tree.
	CORNUS Florida	FLOWERING DOGWOOD	10'-12', 8'-10'	20'-25'	Good, well-drained soil	White	May	Red	Brilliant scarlet	Showy blooms, berries, and fall foliage.
	CRATAEGUS cordata	WASHINGTON HAWTHORN	10'-12'	20'-25'	Rich loam	White	May	Scarlet	Brilliant scarlet	Bright haws or fruits, lively foliage, vigorous form, fine twigs.
	CRATAEGUS oxyacantha	ENGLISH HAWTHORN	10'-12', 8'-10'	15'-20'	Rich loam	White	May	Red	Scarlet	
	FORSYTHIA intermedia spectabilis	SHOWY BORDER FORSYTHIA	6'-7', 5'-6', 4'-5'	8'-10'	Good, average soil	Golden yellow	April	—	Green	Very showy in bloom. Substantial foliage.
	KALMIA latifolia	MOUNTAIN LAUREL	3'	5'-6'	Woody loam, acid	White, pink	June	—	Glossy evergreen	Likes partial shade. Requires acid soil.
	LIGUSTRUM ibota regelianum	REGEL PRIVET	3'	5'-6'	Good, average soil	White	July	Black	Green	Excellent foliage. Graceful compact form.
	MAGNOLIA soulangeana	SAUCER MAGNOLIA	10'-12', 8'-10'	20'-25'	Moist, somewhat acid soil	Rosy-purple	May	—	Green	Trunks and branches soft silver gray. Fine, bright green foliage. Fragrant, showy blooms.
	MALUS floribunda	JAPANESE FLOWERING CRAB APPLE	8'-10'	15'-20'	Moist, rich soil	Rose	May	Reddish yellow	Green	Effective spring bloom. Effective fall fruit.
	MALUS spectabilis	CHINESE FLOWERING CRAB APPLE	10'-12'	15'-20'	Well-drained, good soil	Pale pink	May	Yellow	Green	Effective spring bloom. Effective fall fruit.
	RHODODENDRON maximum	ROSEBAY RHODODENDRON	6'-7', 5'-6', 4'-5'	8'-10'	Woody loam, acid	Lavender	June	—	Glossy evergreen	Likes partial shade. Requires moisture and acid soil.
	SYRINGA vulgaris	COMMON LILAC	6'-7', 5'-6', 4'-5'	12'-15'	Good, rich soil	Lavender	June	—	Green	Fragrant blooms, substantial foliage.
	TAXUS cuspidata	JAPANESE YEW	4' spread	10' spread	Good, moist soil	—	—	Scarlet	Dark evergreen	
	VACCINIUM corymbosum	HIGHBUSH BLUEBERRY	3'	6'-8'	Woody loam	Pinkish white	April	Blue	Brilliant scarlet to crimson	Interesting bloom. Striking fall color. Delicious berries.
	VIBURNUM dentatum	ARROWWOOD	6'-7', 5'-6', 4'-5'	10'-12'	All but very dry soils	White	June	Blue-black	Purple and red	Excels in foliage, bloom, fruit, and autumn color.
	VIBURNUM lentago	NANNYBERRY	5'-6', 4'-5'	15'-20'	All but very dry soils	White	May	Blue-black	Brilliant scarlet-crimson	Excels in foliage, bloom, fruit, and autumn color.
	VIBURNUM prunifolium	BLACKHAW	6'-7', 5'-6', 4'-5'	12'-15'	All but very dry soils	White	April	Pink to black	Purple and red	Excels in foliage, bloom, fruit, and autumn color. Interesting shape.
	VIBURNUM tomentosum plicatum	JAPANESE SNOWBALL	3'-4'	6'-8'	All but very dry soils	White	June	Blue-black	Purplish	Abundance of white snowballs. Pleach as a vine.
	WEIGELA rosea	PINK DIERVILLA	3'	5'-6'	Good, well-drained soil	Pink	June	Brown	Green	Flowers in abundance. Banana-like fruit.
	WISTERIA sinensis	PURPLE CHINESE WISTERIA	—	25'-30'	Good, rich soil	Blue-violet	May	—	Green	Pendant flowers all come at once.
	HEDERA helix	ENGLISH IVY	—	—	Good, rich soil	Greenish	June	—	Glossy dark evergreen	Ground cover. Spacing 12" apart.
	PACHYSANDRA terminalis	JAPANESE SPURGE	—	—	Good, rich soil	White	May	—	Evergreen	Ground cover. Spacing 6" apart.
	VINCA minor	BLUE PERIWINKLE	—	—	Good, rich soil	Blue	May, Fall	—	Glossy dark evergreen	Ground cover. Spacing 9" apart.



# APARTMENT-ROW HOUSE PROJECT, CHICAGO

5

Illinois team designs an in-city rental project combining individual dwellings and apartments with an unusually high proportion of open land, expert site and unit planning.



KRAMER, ANDERSON, KINCAID, OWINGS

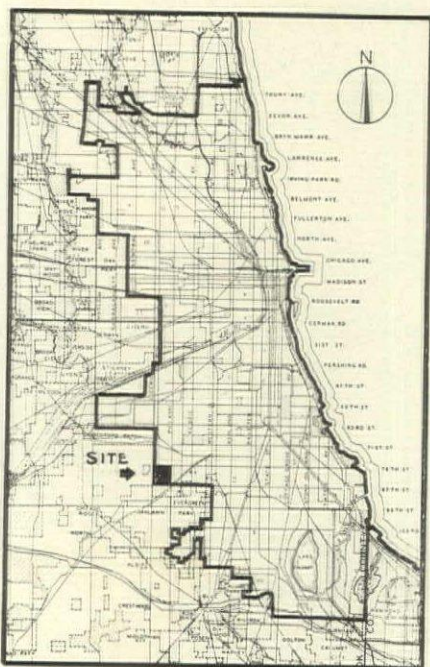
The team responsible for this development consists of Skidmore, Owings & Merrill, Architects and Engineers; Draper & Kramer, Inc., Financial Mortgage Bankers; Joseph T. Carp, Inc., Builders, and the Chicago Plan Commission represented by its executive director, H. Evert Kincaid.

**SKIDMORE, OWINGS & MERRILL** during the past four years have devoted their entire effort to war housing and other projects connected with national defense. Outstanding among these were Willow Run, the Calvert Houses in Washington, D. C. and housing for employes of the Glenn Martin plant near Baltimore. They also designed the recreation center and hostess house at the Great Lakes Naval Training Center. Karl C. Anderson is a junior partner who took an active part in the study.

**DRAPER & KRAMER, INC.**, is a well known Chicago firm which has been active in the fields of real estate and mortgage banking for more than 50 years. On this project they represented certain insurance companies and worked out the financial set-up.

**JOSEPH T. CARP, INC.**, a building firm responsible for many of Chicago's finest residences and apartment buildings, have also been active in providing war housing for the medium income group.

**THE CHICAGO PLAN COMMISSION** offered its complete cooperation and made available all facilities through its representative and executive director, H. Evert Kincaid who participated as an active member of the team.



## BACKGROUND

The Chicago Plan Commission, in preparing studies for residential areas within the city, had selected a practically vacant site of 1.8 square miles for which they designed a typical planned community. This plan was presented by H. Evert Kincaid, Executive Director of the Commission, at the first meeting of the team, with a recommendation that a portion of the site be developed further.

In working on the site, the standards set up by the Commission were accepted and used. These covered distribution of shopping centers, school districts, public buildings, community buildings, park recreational percentages, population density, proposed boulevard system, proposed standards for main and service streets, minimum lot requirements, etc.

Work on the project was carried for-

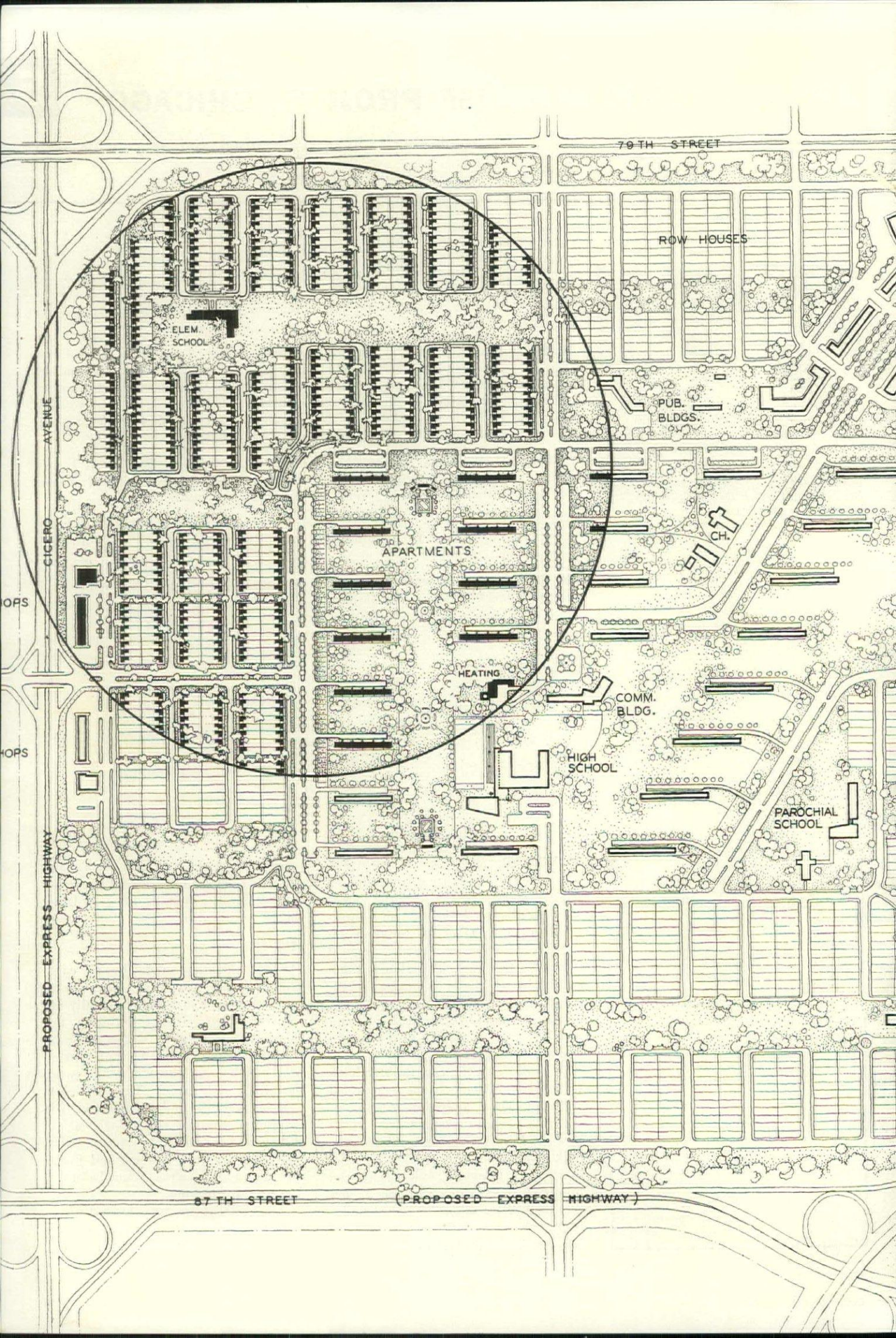
ward with the conviction that on a site of this size and location, all necessary and desirable conditions for good living could be provided.

## THE SITE

The tract is unimproved. The only existing facilities consist of some underground utilities and a few partially improved streets. It lies within a few blocks of the new Dodge Chicago Plant. The Clearing Industrial District, one of the largest in the middle west, is only a mile away. The Municipal Airport is a mile and a half away. The great concentration of industrial establishments has attracted a large number of skilled workers, foremen and junior executives for whom accommodations in the area are lacking.

The fact that the site is located within the corporate limits of Chicago offers many obvious advantages. The city





79TH STREET

ROW HOUSES

ELEM.  
SCHOOL

PUB.  
BLDGS.

CH.

APARTMENTS

HEATING

COMM.  
BLDG.

HIGH  
SCHOOL

PAROCHIAL  
SCHOOL

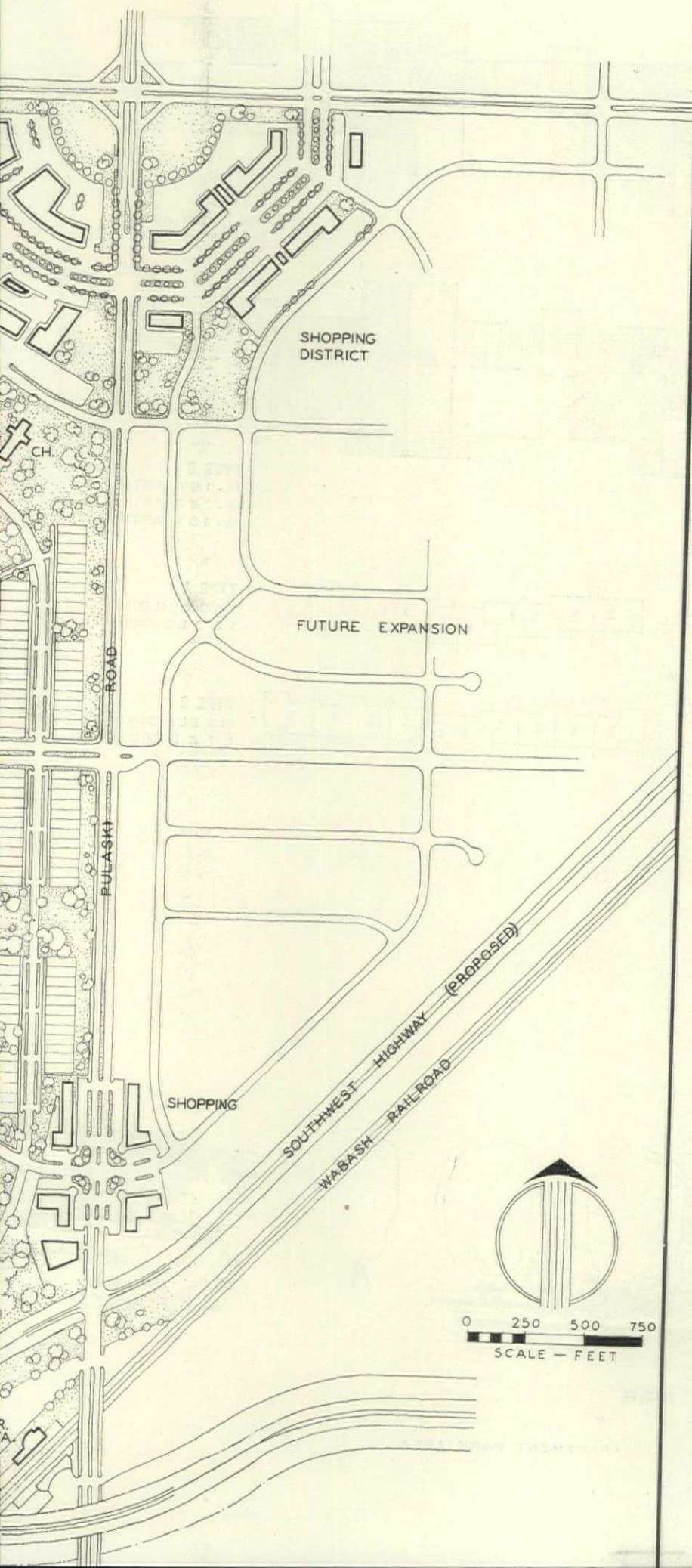
CICERO AVENUE

PROPOSED EXPRESS HIGHWAY

87TH STREET

(PROPOSED EXPRESS HIGHWAY)





could help in providing the necessary schools, parks and playgrounds. It would furnish fire and police protection as well. The commercial and entertainment facilities of a big city are within easy reach.

It is estimated that the site can provide family accommodations and all necessary shopping and public facilities for 26,000 people.

#### SITE PLAN

Due to the considerable extent of the site, several fundamental decisions were made by the team at the outset. It was decided to take the area within the circle and develop this intensively. As a necessary preliminary the entire site was studied architecturally, streets were laid out, and the facilities were located. In actual practice the area fully developed could be built as a unit, and could operate successfully pending the completion of the project as a whole.

On the recommendation of Ferd Kramer, representing the real estate and insurance interests, it was agreed that the project would be set up on a rental basis, with an average rental around \$13 per room.

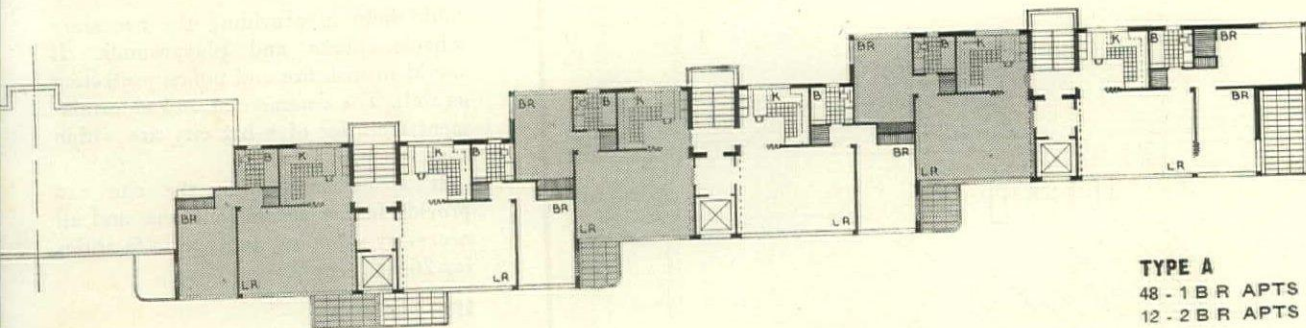
It was also agreed that an even distribution of the population between apartments and unit dwellings was desirable, that there should be a minimum of cross-street circulation for children in all school districts, and that a direct southern exposure be provided for living quarters in both houses and apartments.

Because of the flat terrain, there was no contour need for curving streets; therefore, the street planning was predicated on the type and design of the individual living quarters, first in the houses and then in the apartments—and on the disposition of these elements.

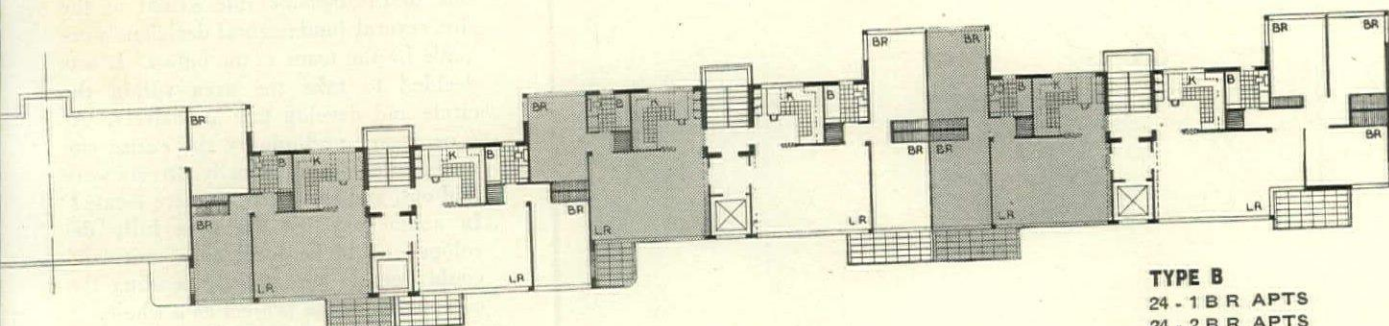
Semi-row type units, using 40 and 45 ft. width lots fulfilled the requirements of the houses and established the street layout. Placing these rows on north-south lines, and keeping the length to a minimum to avoid too much repetition, a street plan was formulated terminating in cul-de-sacs or connecting with minor connecting loops bordering on landscaped areas. Although the Chicago Plan Commission advocated the use of circuitous streets, it was felt that the correct proportion of park areas to streets would still give the desired effect.

Again with orientation the main factor, the six-story apartment units were placed east and west within a central safety zone, which also contains the high school and community facilities. There is easy access to car parking and services from the surrounding circumferential street.

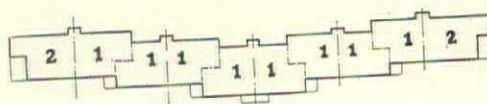




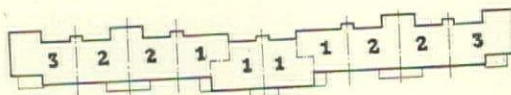
**TYPE A**  
48 - 1 BR APTS  
12 - 2 BR APTS



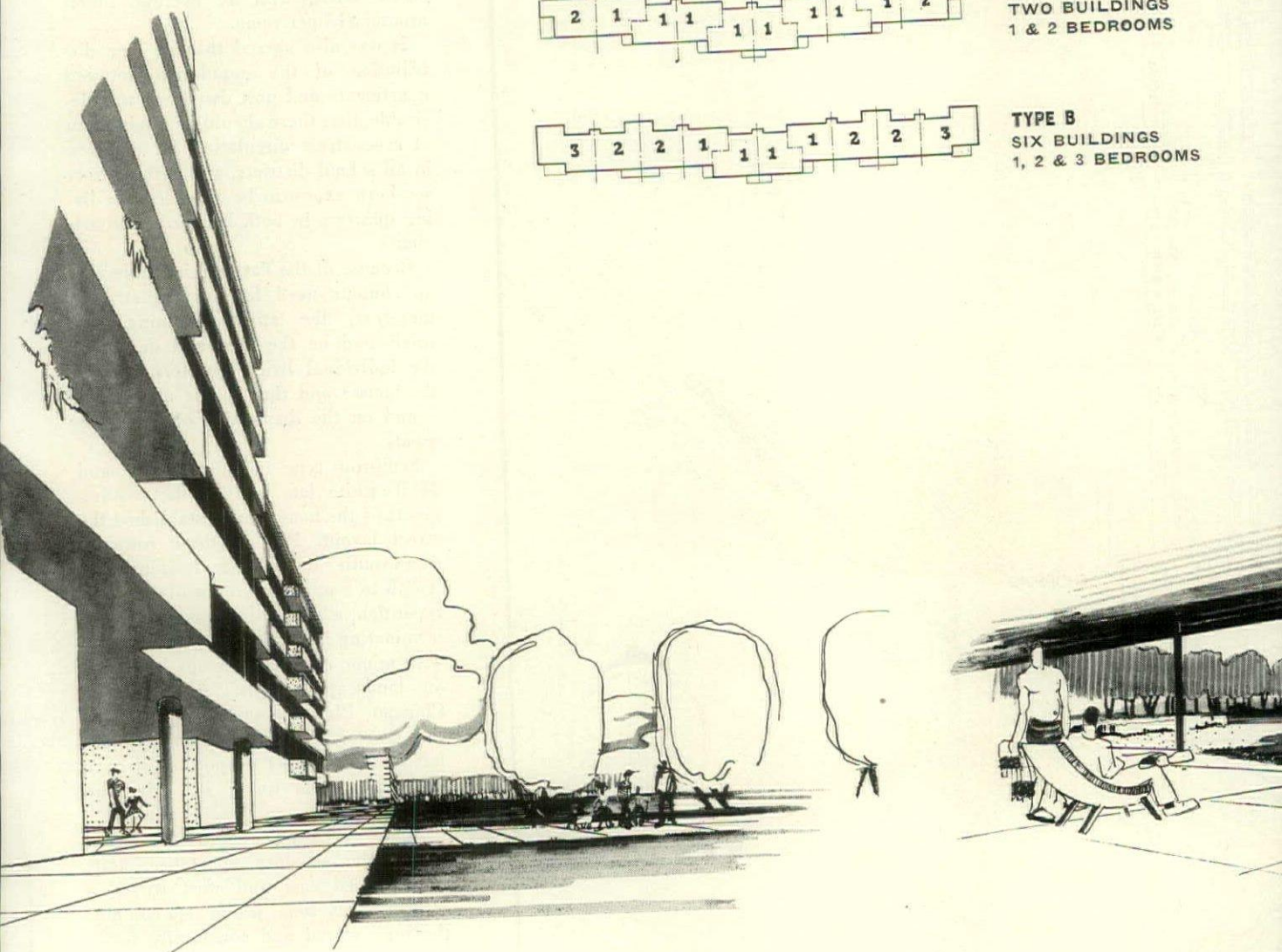
**TYPE B**  
24 - 1 BR APTS  
24 - 2 BR APTS  
12 - 3 BR APTS



**TYPE A**  
TWO BUILDINGS  
1 & 2 BEDROOMS



**TYPE B**  
SIX BUILDINGS  
1, 2 & 3 BEDROOMS



APARTMENT PARK AREA



## APARTMENT UNITS

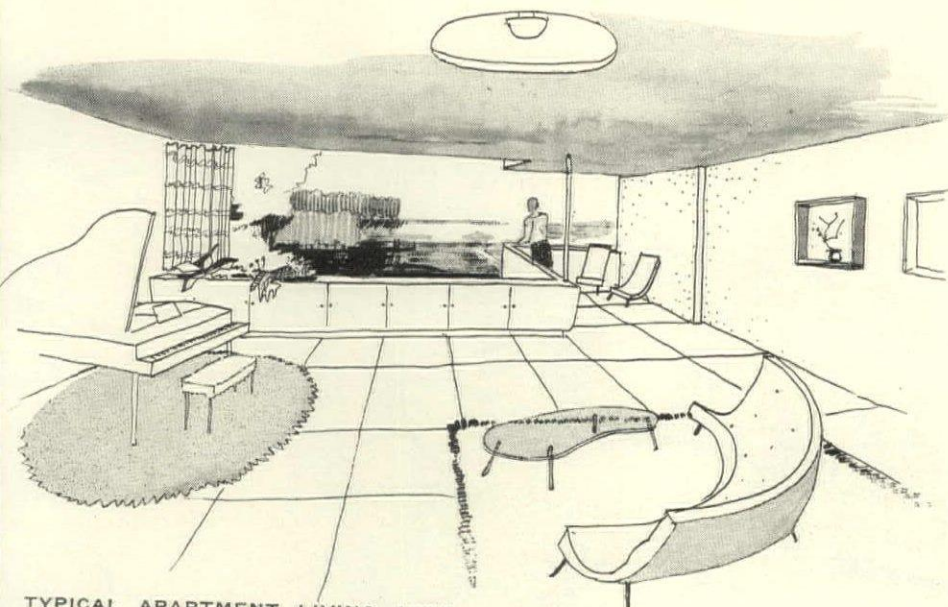
All apartment buildings in the project fall into two basic types. One contains one- and two-bedroom combinations, and the other, one-, two- and three-bedroom combinations.

It will be recalled that the team agreed that orientation and ventilation requirements be solved by all living units, whether unit houses or apartments. In the case of the latter, this stipulation produced long, narrow units extending from east to west. Their length, however, is not unbroken, as there are offsets and projections to provide better views, porches and balconies and improved ventilation.

The typical building is only one unit in depth, with living rooms invariably facing south and kitchens and baths always facing north. Bedrooms are located on both sides, and some apartments are more desirable in this respect than others. Every apartment has its own open terrace.

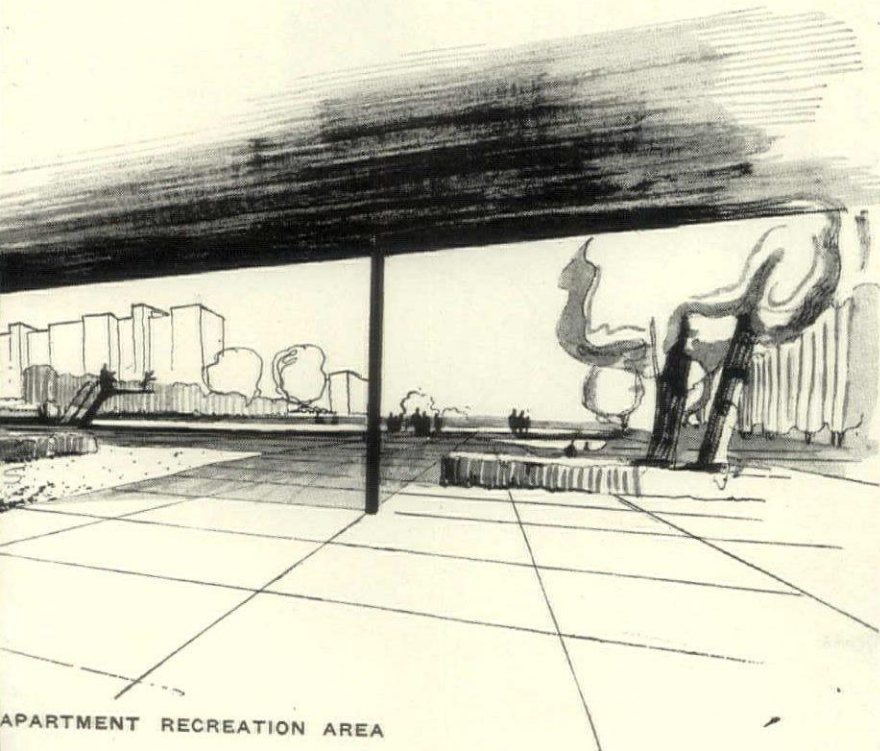
There are twelve apartments on each elevator shaft. Due to the one-unit depth established, this means that on a given floor there are only two apartments opening on the elevator lobby. Normally this highly desirable feature, favored by tenants and renting agents alike, is restricted to the most expensive types of apartments. Another consequence of this arrangement is that corridors, and therefore a considerable amount of maintenance work, are virtually eliminated. Since orientation has been given so much emphasis throughout the project, the placing of elevators on the favored south side may be questioned. In view of the fact that a stair is required as well as an elevator, it was felt that nothing was lost and everything gained by placing the elevator shaft on the front where it gives added privacy to the terraces. It is assumed that the walls adjoining the elevator would be constructed as sound-insulators.

It will be noted from the sketches at the left that putting the buildings on stilts is proposed. The advantages of this scheme have been known for many years. Ground floor apartments are never taken if tenants can find anything better, and the customary procedure is to use the space for lobbies, doctors' offices and shops. In a large scale group plan these undesirable expedients are not necessary, and it becomes possible to use the ground-floor area for sheltered recreation space, storage for playthings and baby carriages, etc. The sketch at the lower left also suggests a further advantage: the extension of views through the buildings at ground level, so that the impression of spaciousness is even greater than the amount of free space actually provided.



TYPICAL APARTMENT LIVING AREA

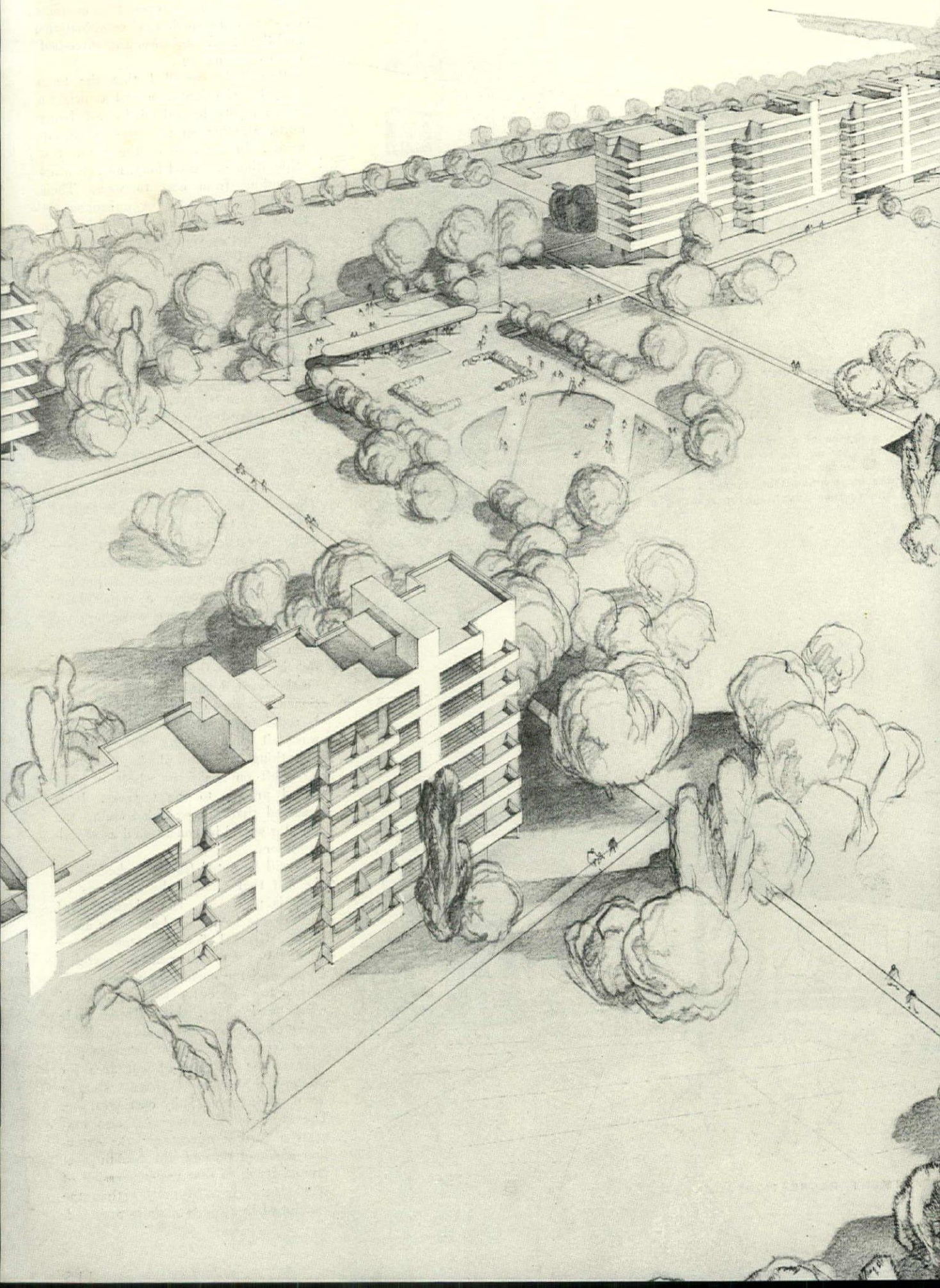
Above, a sketch of a typical living room interior. The glass extends clear across the front, opening the room to an unobstructed view. The terrace, whether incorporated in the room or left open, is treated as an integral part of the interior. Note the large amount of storage space built in below the window sill. Cabinets have the further advantage of creating a broad counter for books, plants, etc.



APARTMENT RECREATION AREA

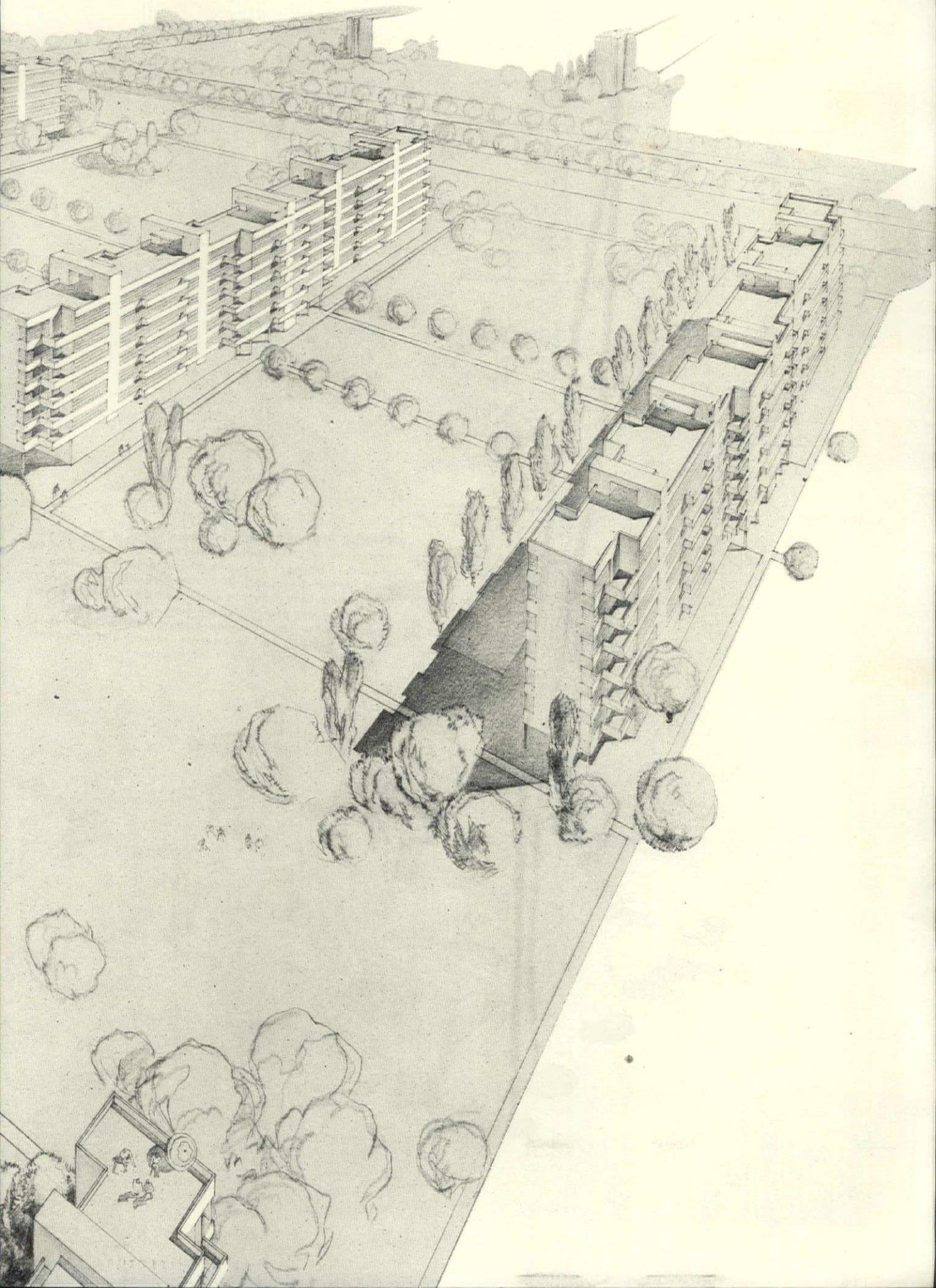


APARTMENT SECTION IS TREATED AS AN OPEN, PARK-LIKE AREA. WIDELY

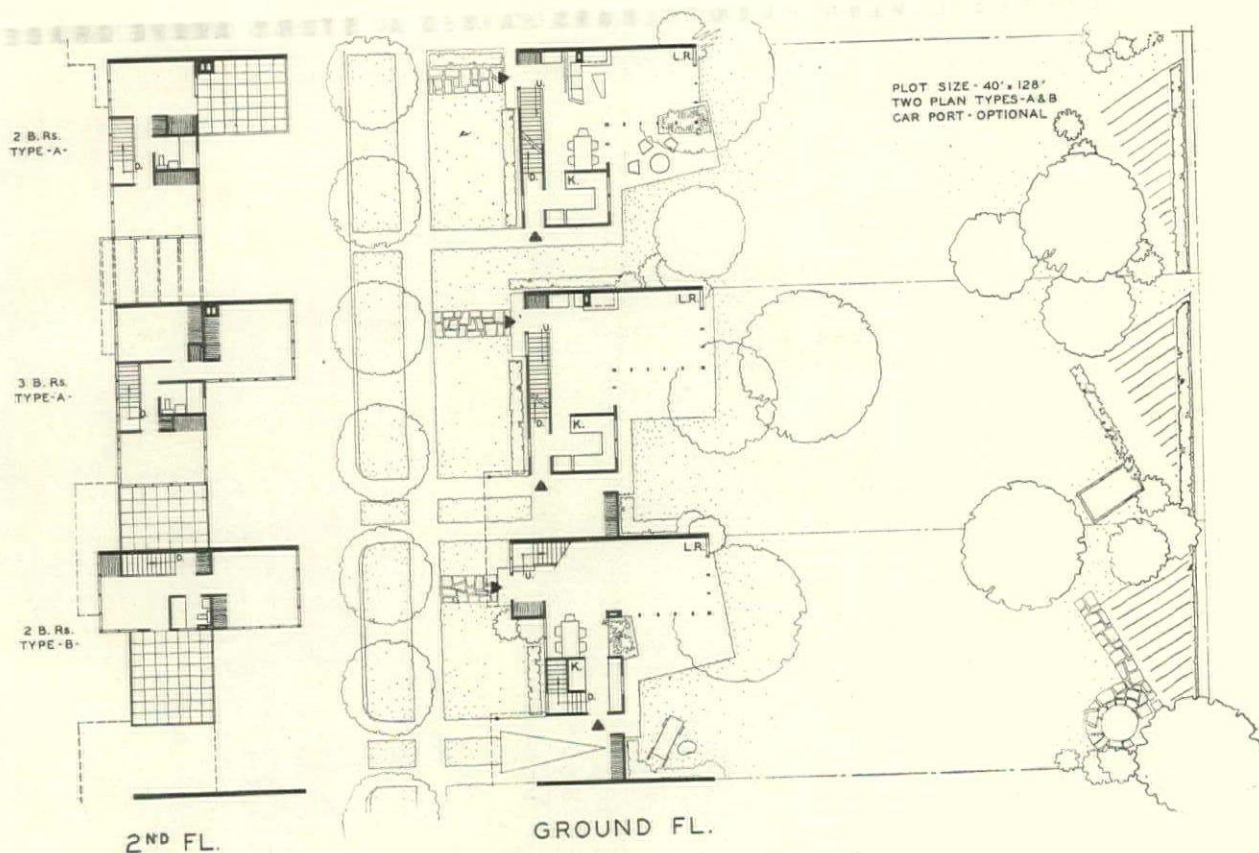




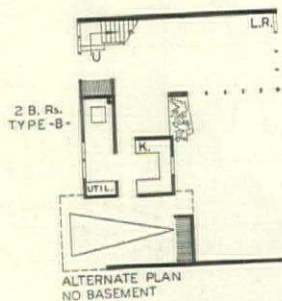
PACED BUILDINGS HAVE LIVING FLOORS RAISED A STORY ABOVE GRADE



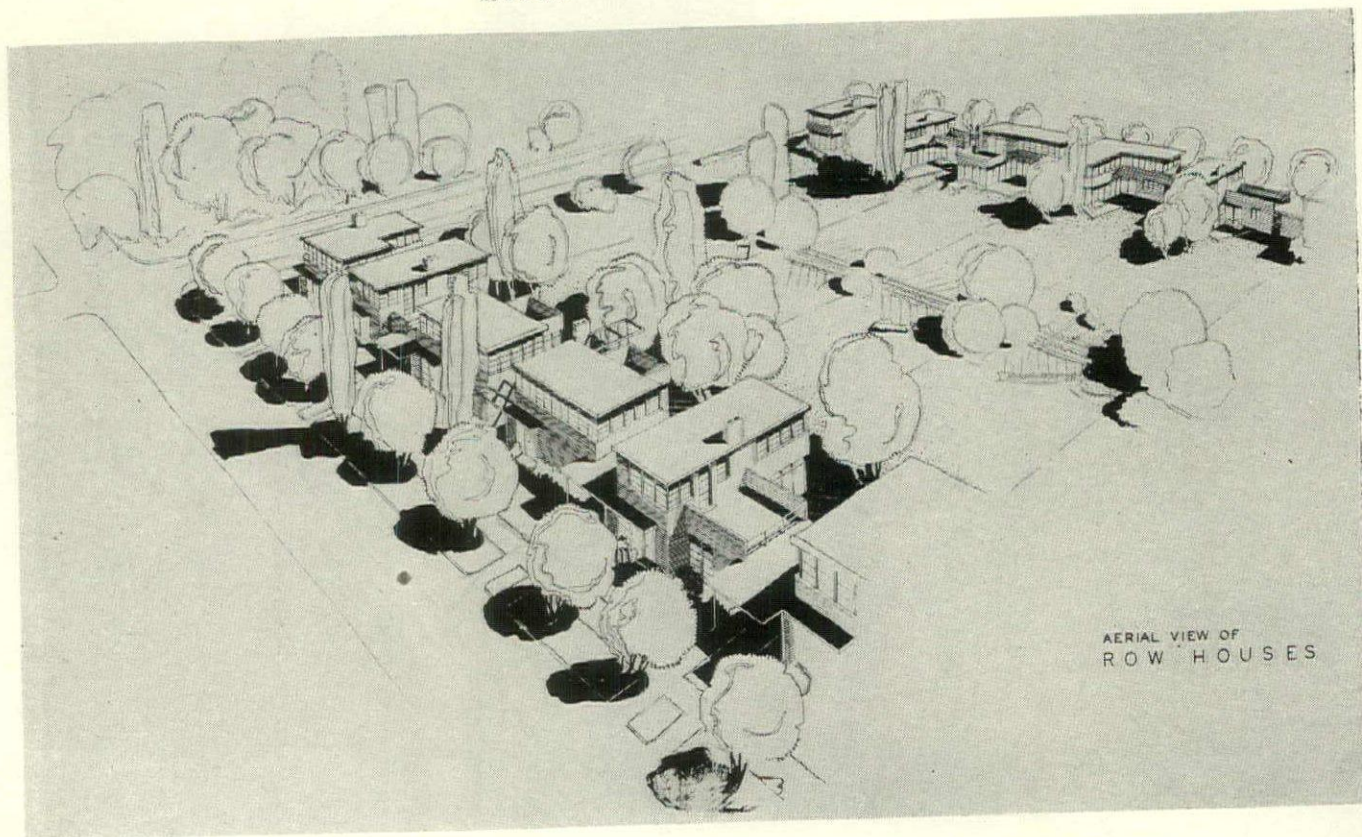




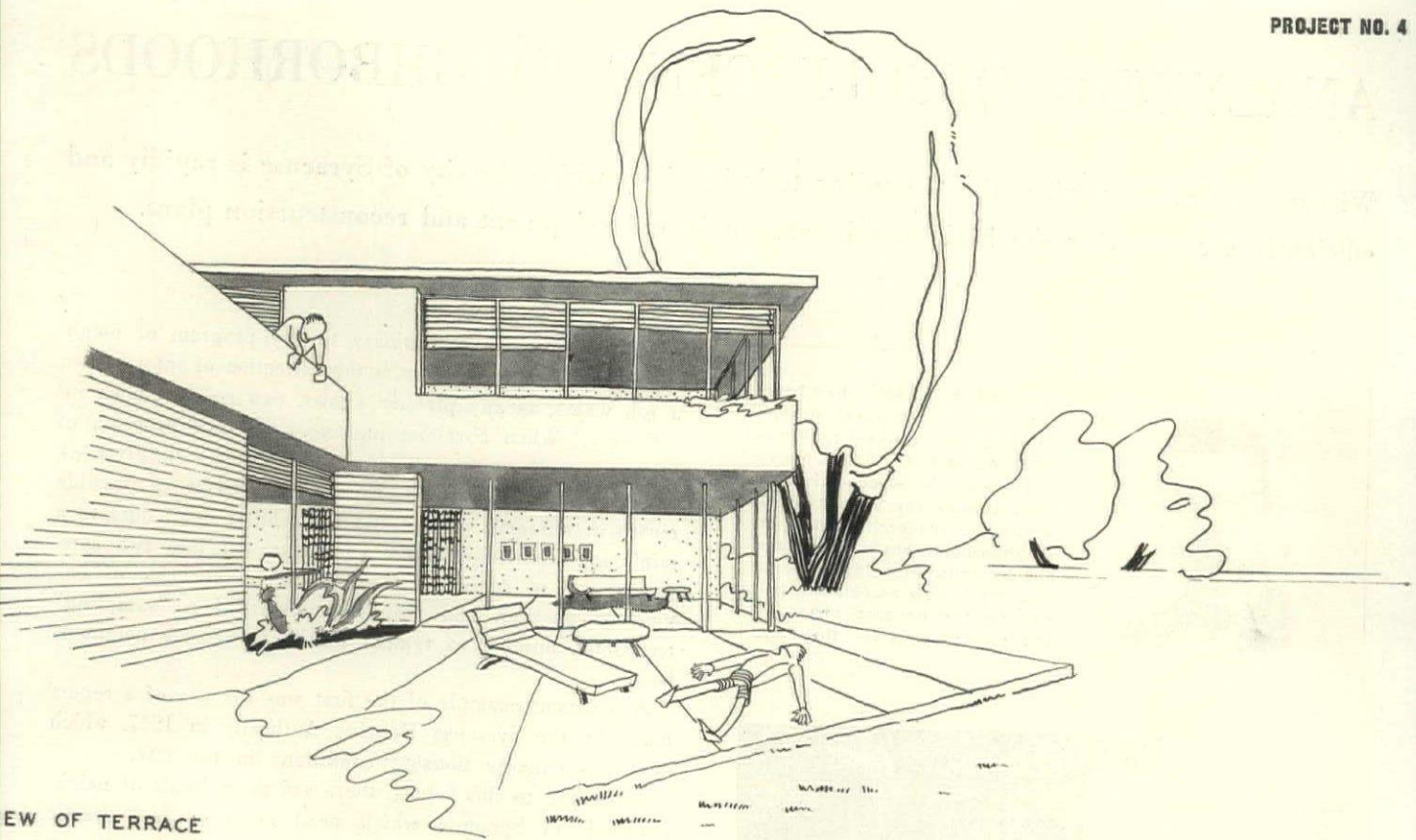
SCALE: 1/32" = 1' - 0"



**TYPICAL PLOT PLAN**, above, shows some of the possible variations of the standard row house developed for the project. Both two- and three-bedroom units are provided, with the two-bedroom unit available in alternate forms in which the second-floor terrace is placed either at the back, as in the upper plan, or at the side, as in the center unit. Ground floors are arranged either with or without an attached carport, and an alternate scheme (left) has been developed for units without basements.







EW OF TERRACE

### ROW HOUSES

Designed as rental units, the row houses were worked out with a view to creating the needed variety of accommodations, and, at the same time, variations in the appearance of the units as viewed from the street. This was accomplished without sacrificing the economies of a standard design by fixing the general outlines of the plan, location of plumbing units, etc., and then developing a number of alternate arrangements for the secondary elements. The second floor of the two-bedroom unit, for example, in some cases runs north and south, in others east and west, so that in some cases there are wider gaps between the houses at the second floor than in others. In the same way, carports are provided for some of the houses, closing the gap between the units at the first floor level, and in others these are omitted.

In all cases, the houses are serviced entirely from the street, creating a "living lawn" area at the rear for the private use of each family. Unlike the apartments, the house rows face east and west, but the fundamental L-shape of the units is designed to afford a generous southern exposure for the living room, and some of the bedrooms also face south. This scheme has the advantage that an eastern exposure, to get the morning sun, is also possible, and works well with the two-story units. All of the plans have a blank wall at the north to maintain privacy.

### CONSTRUCTION COSTS\*

Multi-story structures .....	\$2,000,000	
Paving and utilities (including underground steam connections) .....	118,000	
Landscaping .....	100,000	
Heating plant and equipment .....	85,000	
		2,303,000
Semi-row house structures .....	2,446,000	
Paving and utilities (including underground steam connections) .....	203,830	
Landscaping .....	220,000	
		2,869,830
Total cost of project .....		\$5,172,830

\*Including land costs and contractors' and architectural fees.

### RENTAL ANALYSIS

#### HOUSES

Total Cost .....		\$2,869,000
90% Mortgage 25 yrs. ....		2,582,100
Equity .....		286,900
308 five-room units @ \$55.00 .....	\$203,280	
154 six-room units @ \$68.00 .....	125,664	
		328,944
Gross Income .....		
Vacancy Reserve .....	\$16,447	
Taxes and Insurance .....	56,400	
Decorating, Repairs & Replacement, and Management .....	55,803	128,650
Net Profit .....		200,294
Principal and Interest Payment on 25-yr. 90% Loan .....		181,263
Return on Equity .....		\$19,031

#### APARTMENTS

Total Cost .....		\$2,303,000
80% Mortgage 30 yrs. ....		1,842,400
Equity .....		460,600
240 four-room units @ \$52.00 .....	\$149,760	
168 five-room units @ \$65.00 .....	131,040	
72 six-room units @ \$78.00 .....	67,392	348,192
Vacancy Reserve .....	\$17,409	
Taxes and Insurance .....	45,200	
Fuel .....	18,440	
Management, Salaries and Janitor .....	34,257	
Decorating, Telephone, Repairs and Equipment Replacement .....	55,980	
Water and Electricity .....	11,382	
Stove and Refrigerator Replacement .....	6,000	
Supplies and Miscellaneous .....	3,640	192,308
Net Profit .....		155,884
Principal and Interest Payment on 30-yr. 80% Loan .....		112,022
Return on Equity .....		\$43,862



# ANALYZING OBSOLESCENT NEIGHBORHOODS

William P. Crane describes the "sampling technique" by which the city of Syracuse is rapidly and efficiently accumulating the background data for its redevelopment and reconstruction plans.



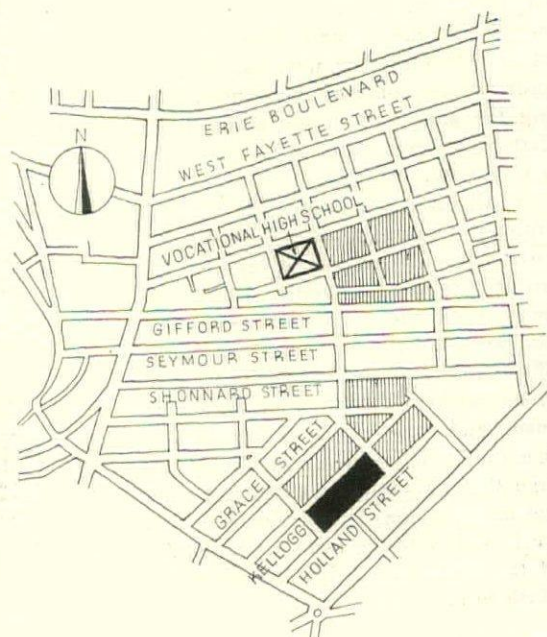
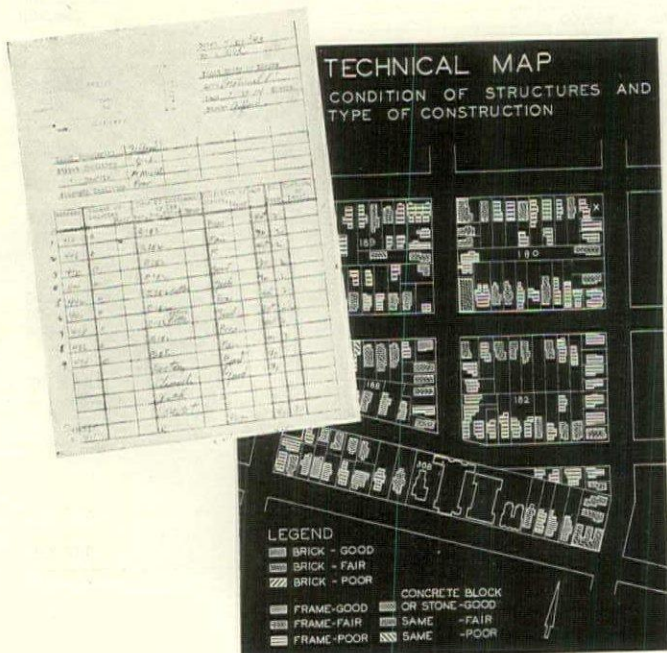
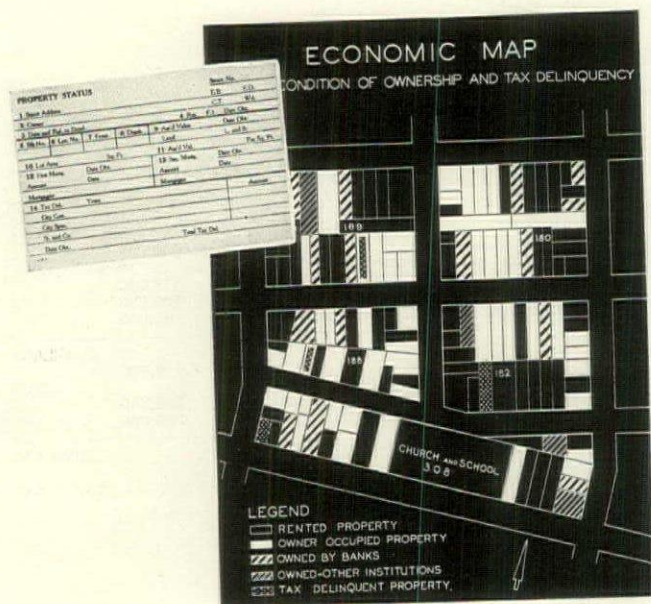
**WILLIAM P. CRANE** has been teaching architectural design at Syracuse University since 1937. As part of a USHA housing project he worked on site plan studies for the city and conducted research studies of neighborhood rehabilitation for the Syracuse Housing Authority. He is now associate planner on the housing phase of the master plan for the city.

AN indispensable preliminary to any program of neighborhood redevelopment is the collection of information, a job which, as any planner knows, can go on almost indefinitely. When Syracuse undertook its own program of bringing itself up to date, in collaboration with FORTUNE and THE ARCHITECTURAL FORUM, it used every possible means of reducing surveys and the tabulation of data to a minimum. Essentially these short-cuts fell into two categories: use of surveys already made by agencies of one kind or another, and the development of a "sampling" technique, applied to typical blocks in various neighborhoods.

A pertinent example of the first was the use of a report made by the Syracuse Housing Authority in 1937, which describes existing housing conditions in the city.

According to this report, there are three kinds of neighborhoods in Syracuse which need more or less drastic rehabilitation. There is the typical substandard area, too far gone to be fixed up by the remodeling of individual structures. There is the mixed neighborhood, where houses, industries and business establishments compete for space, which needs not only demolition but a change in land use. And there is the old residential neighborhood, obsolescent but not yet blighted. It is the last with which this article is concerned primarily, but it might be added that few U.S. communities exist which cannot provide examples of all three types.

These old neighborhoods, decayed or declining, occupy a substantial area, and their final disposition bulks large in any all-over planning proposal. It was the use of the sampling procedure already mentioned that made it possible to arrive at a reasonably accurate analysis of the neighborhoods and develop proposals for their reconstruction.





## THE SAMPLING TECHNIQUE

This procedure consists of dividing the city into a number of more or less homogeneous neighborhoods. As we have seen, the work of the Housing Authority had already outlined such areas. Within every typical area a small section—say a few blocks—was selected for intensive study. Then the results of this study, and the conclusions drawn from it, were applied to the neighborhood.

It is true, of course, that no one block is completely typical in all respects of all blocks in a neighborhood. Nevertheless the discrepancies prove to be minor, and the sampling technique has proven to be sufficiently accurate for all practical purposes. The steps followed are listed below.

### BACKGROUND DATA

The usual preliminary is an attempt to gain some knowledge of the original platting of the sample area, to discover whether use and street patterns have changed materially, and if so, why. In Syracuse, the Historical Society and the City Planning Commission were found to have the necessary old maps.

For the collection of more recent information, the following outline was used:

#### Economic

1. Present size and ownership of parcels.
2. Tax delinquencies.
3. Assessed value of land, and land and buildings.
4. Proportion of owner-occupied properties.
5. Recent demolitions or condemnations (cleared land).
6. General income data (rentals) where possible. When obtained figure amount of taxes on property.
7. Stability of present occupancy (tenure and trends).
8. Population characteristics.

#### Technical

1. Approximate age and size of buildings.
2. Type of construction.
3. Type of occupancy (land use).
4. Circulation (streets, traffic problems).
5. Condition of buildings.
6. Community facilities serving the area (easements).
7. Hazards of present occupancy (non-conforming uses).

Some of this information was furnished by the Assessor's office, which has cards for each parcel. Data on tax delinquency was provided by the City Real Estate Commission. The economic map of the Vocational High School area shows how the information was presented in graphic form.

Technical data was assembled by an architect and engineer who inspected the sample blocks. Their survey provided the information listed in the technical outline, which was also put into map form.

Supplementary information was taken from the City Directory, which gave the names and number of families in each structure. This furnished a fairly reliable picture of the disposition of nationality groups, whose tendency to cluster together is still strong. In this connection the 1940 census was also useful.

Land coverage by blocks was tabulated, as well as density in terms of families per net acre.

The result of carrying through the sampling technique was that the Vocational High School area was accurately identified as a blighted neighborhood, and the Grace-Holland Street area as obsolescent.

## THE GRACE-HOLLAND STREET AREA

This is a residential section on the west side of the city, within walking distance of the business center and near some of the industries. The site is flat, something rather uncommon in Syracuse.

### Physical Condition

The area was originally built up with two-story, single-family dwellings of good frame construction. The houses were built, for the most part, between 1880 and 1910, and average eight to ten rooms of generous size.

Lot sizes (50 x 125) were above average for cities of the time, but the large houses negated this initial advantage.

Because of the 15 to 20 ft. set back from the sidewalk, and the length of the houses, there is only a small rectangle of garden space behind the house. A few of the occupants built small barns or sheds at the rear.

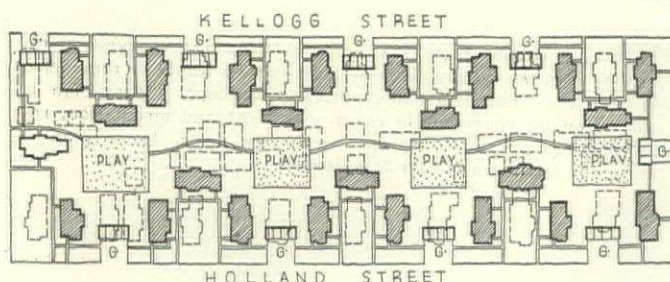
### Trends

The automobile produced the major change in the neighborhood. Spaces once adequate were now taken over by driveways and garages, and the same cars which started the decline of the neighborhood gave the children of the original owners an opportunity to escape to more spacious surroundings. Single-family houses were converted into two-family buildings, and in recent years the neighborhood has been shifting from flats to furnished rooms.

Despite the fact that most of the houses are well maintained, the Grace-Holland Street area is beginning to show the familiar first signs of blight. It is not enough to arrest this tendency: *any effective solution must make the area one in which people will find it desirable to live.* Several possible schemes for rehabilitation are shown. While developed for a single block in the area, they apply to the section as a whole.

The first thing indicated by a study of the sample block was that inevitably a certain number of the houses would have to come down. There is no other way of reducing the excessive coverage, and a limited amount of demolition would provide for better views, more privacy and an increased number of garages. Expressed in other terms this means enhanced rentability and stabilized values.

Of the three main schemes proposed, Scheme A was the most idealistic, since it involved a maximum of alteration. It also succeeded in attaining most of the objectives of good housing.

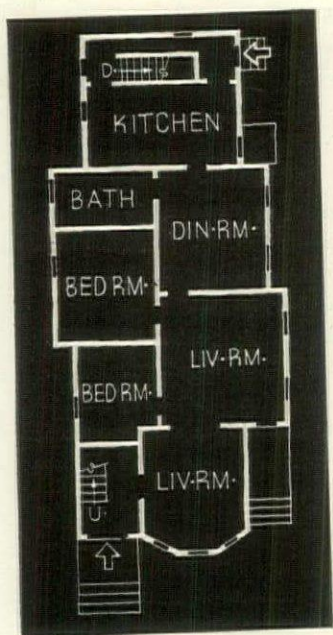


Scheme A.

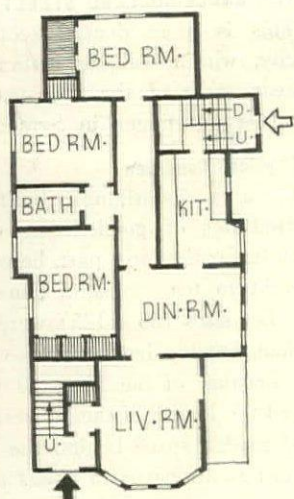
Essentially this plan called for the removal of every other dwelling unit. Half of these were to be demolished and half were to be moved as shown. Garages require a minimum of driveway and help to screen play areas from the streets.

Scheme B is a variant of Scheme A, and shows an effort to provide cross circulation for pedestrians through the block. Garage groups are larger and fewer in number.

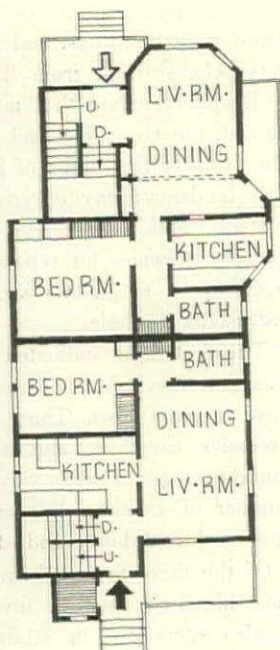
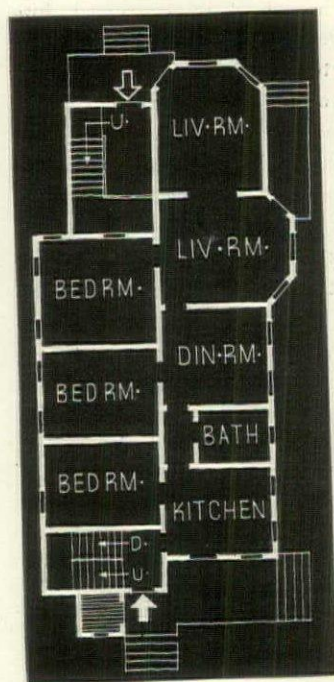




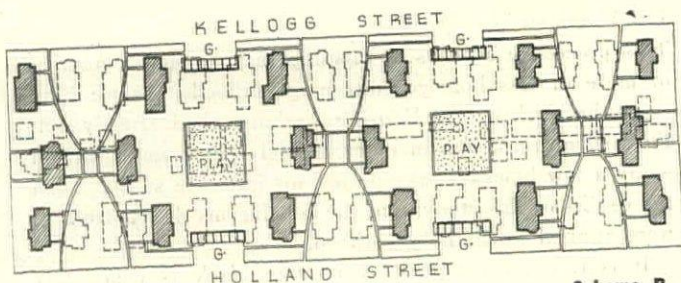
BEFORE



AFTER



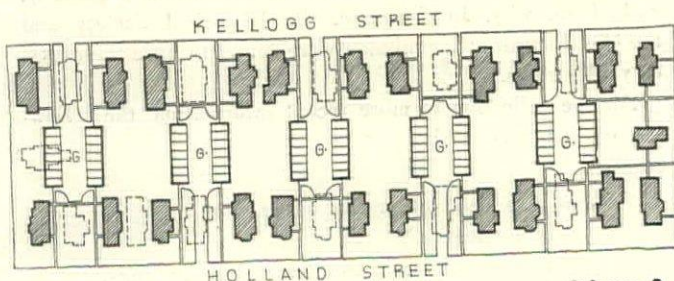
**TYPICAL HOUSES**, from the block selected for redevelopment, as they exist at the present time and as they would be remodeled to fit the various new block patterns proposed. Upper plan is simply an improvement in room-placement and circulation, retaining the present division into family units, lower plan is increased from two to four families.



Scheme B.

While satisfactory from the standpoint of light, air, exposure, privacy and open space, both schemes have functional disadvantages. First, of course, is the cost of moving and re-establishing many of the houses. Then too, the court schemes complicate the services, especially if coal is used in individually operated furnaces. Finally, even the garages provided would probably be insufficient in number.

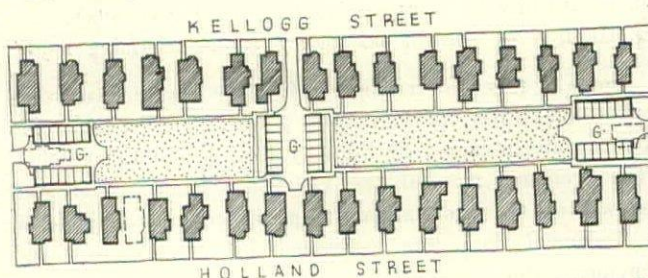
Scheme C was developed in an attempt to overcome these



Scheme C.

disadvantages while still maintaining a certain appearance of openness. This scheme involves the removal of every third dwelling, giving each remaining house one free side. Garage compounds, with a storage capacity of approximately one car per family, are located in the center of the block. There still exists a reasonable amount of open space at the rear.

A fourth scheme (D) was designed to retain as many buildings as possible. Obviously, since it modifies the present arrangement only slightly, the improvement is correspondingly unimpressive.



Scheme D.

The rehabilitation of obsolescent areas such as the sample illustrated offers a number of specific advantages. From the community viewpoint, the procedure is a feasible method of arresting blight, enhancing values, and improving the city generally. From the viewpoint of private local enterprise, such work should be attractive. It will produce good dwelling units in desirable neighborhoods at rentals with which new housing, unless subsidized, cannot compete. Financing, planning and construction could be handled locally. Presumably any such operation, involving a minimum unit the size of a block, would be handled by a corporation formed under the Urban Redevelopment Corporation law.



# A REDEVELOPMENT PROJECT FOR NEW YORK

6

Holden, McLaughlin & Associates propose a method of rebuilding blighted areas in conjunction with needed civic improvements, coordinating city planning and rehabilitation of private property.



ARCHITECTS HOLDEN, McLAUGHLIN

**ARTHUR C. HOLDEN** was graduated from the Columbia School of Architecture in 1915. For many years he has been intensely interested in community planning and multiple low cost housing. Before entering into partnership with Robert McLaughlin in 1928 he was consulting architect for the New York State Board of Housing, director of land utilization studies of the New York Building Congress and special consultant of the National Association of Real Estate Boards. Member, Mayor's Committee on City Planning, 1934-38.

**ROBERT W. McLAUGHLIN** received his degree from the Princeton School of Architecture in 1926. He is known as one of the originators of prefabrication in its present form. In 1932 after exhaustive study and consultation with manufacturers and experts he organized American Houses, Inc., for the production of prefabricated dwellings the first of which was erected for a cost of \$3,500. Since then he has experimented widely and produced a quantity of houses commercially, particularly in the present war emergency.

**Taking part in the study were** Arthur C. Holden, Alfred M. Butts, Tatiana Ruzicka, Mary-Nelle Griffith, Augusta Stewart Breed. Advisory, Robert W. McLaughlin, Franklin C. Wells. Advisory for Real Estate, James Felt. For economic data, Harold R. Sleeper of the Manhattan Development Committee and U. S. Census of 1940.

## THE STUDY

The purpose of the following study is not to stress the already overstressed "traffic flow" aspect of city planning. *Its purpose is to show that intelligent city planning can only be accomplished through correlation of this kind of city planning with the redevelopment of existing blighted areas.*

There are five points in Manhattan where there is need for express cross-town connections between the city's great waterfront thoroughways, the East River Drive and the Hendrik Hudson Parkway. Each of these localities has marked characteristics. In each locality the need for crossways is only one of many factors to be considered in re-planning the district. On the following page are maps of four such areas. We have selected the fifth area and the 98th Street Crossway as the subject for a demonstration in redevelopment.

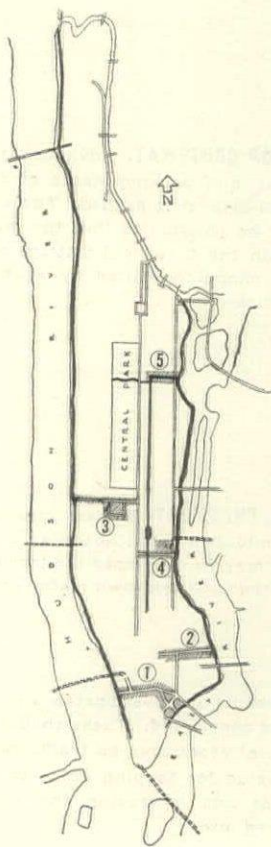
## THE SEARCH FOR SPACE

The story of Manhattan's growth has been the story of the search for space. In the plan of 1811, wide north-and-south avenues opened up the virgin lands to the north of the original commercial city which had grown back from the busy wharves and slips along South Street. By the middle of the century it was evident that more open

space was needed than was afforded by the gridiron street pattern. Accordingly, the great rectangle of Central Park was laid out and developed in the center of Manhattan Island. In the late 80's began the upward climb of buildings seeking more floor space as well as light "borrowed" over the roofs of older neighboring structures. This movement was accelerated by improvements in the steel frame and electric elevator.

The bicycle, the fast trotting horse, and perhaps the first intimations of what the automobile might become, influenced the improvement of the old Boulevard (later known as "upper" Broadway) and the Speedway on Manhattan and the laying out of Mosholu and Pelham Parkways linking the widely separated park areas of the Bronx. It was not until 1916 that the first zoning ordinance sought to test the legality of a check upon the height and bulk of buildings which the courts of the day might hold to be reasonable.

After the unemployment problems of the 1930's suggested the need for public works projects as a means of large-scale re-employment, the present era of express highway building reached its full swing and the name of Robert Moses became a synonym for arterial parkways successfully carried out.



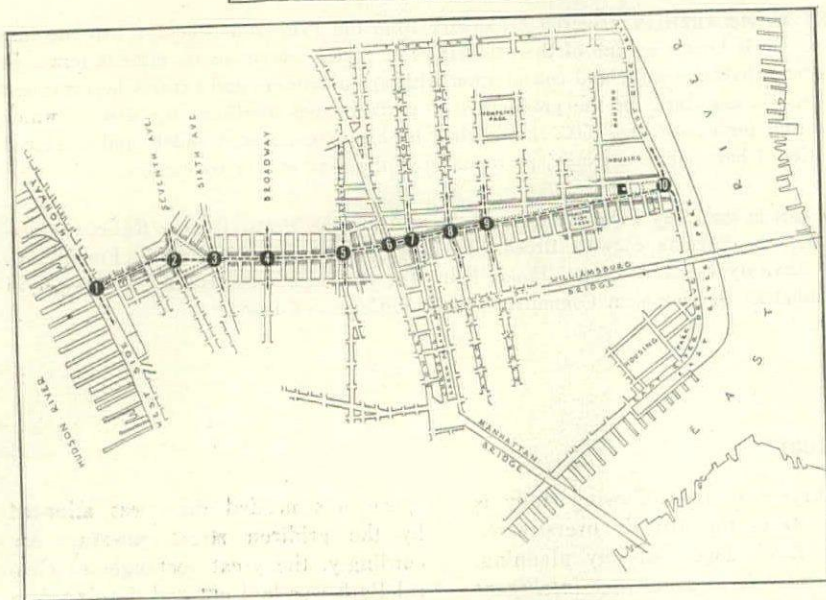




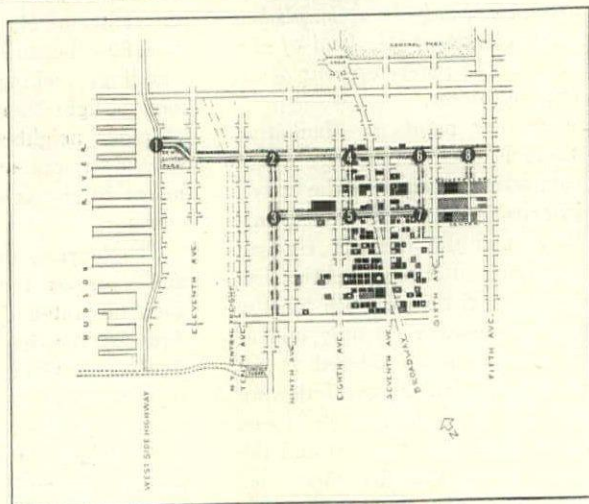
## COORDINATION OF DISTRICT AND CITY PLANS.

The purpose of the Urban Redevelopment legislation enacted in New York in 1941 was to restore initiative to blighted neighborhoods, to create entities capable of replanning, and the rebuilding of such neighborhoods as organic parts of a living, growing city. Such a program calls for coordination between the larger plan for the city and the plan for the redeveloped area as well as for coordination between the re-planned area and the smaller units of which it is composed. Planning calls for redistribution and reassignment of land use, which means better coordination between the private and public uses of land.

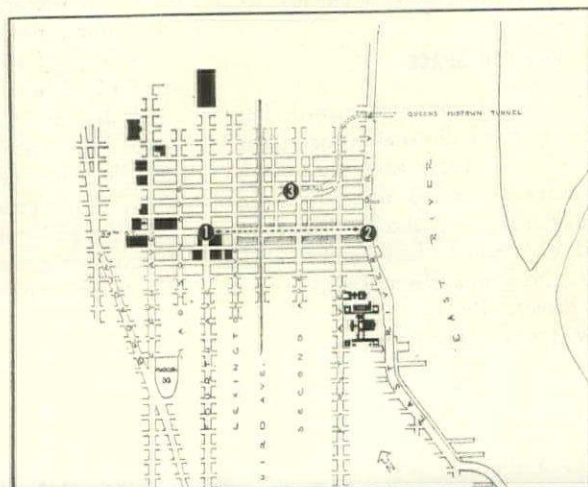
**1. SOUTH OF CANAL CROSSWAY.** A great industrial and market center. An upper deck express crossway will take through traffic off the local streets as well as provide quick connections for the district to the west and east side waterfronts and the terminals of the Holland Tunnel and three of the East River Bridges.



**2. EAST HOUSTON CROSSWAY.** Needed to consolidate the downtown residential district. Abutting property to be developed for park and residential purposes. The arterial connection is needed to furnish adequate access to desirable waterfront development which has been retarded because of remoteness from the north and south routes in center of island.



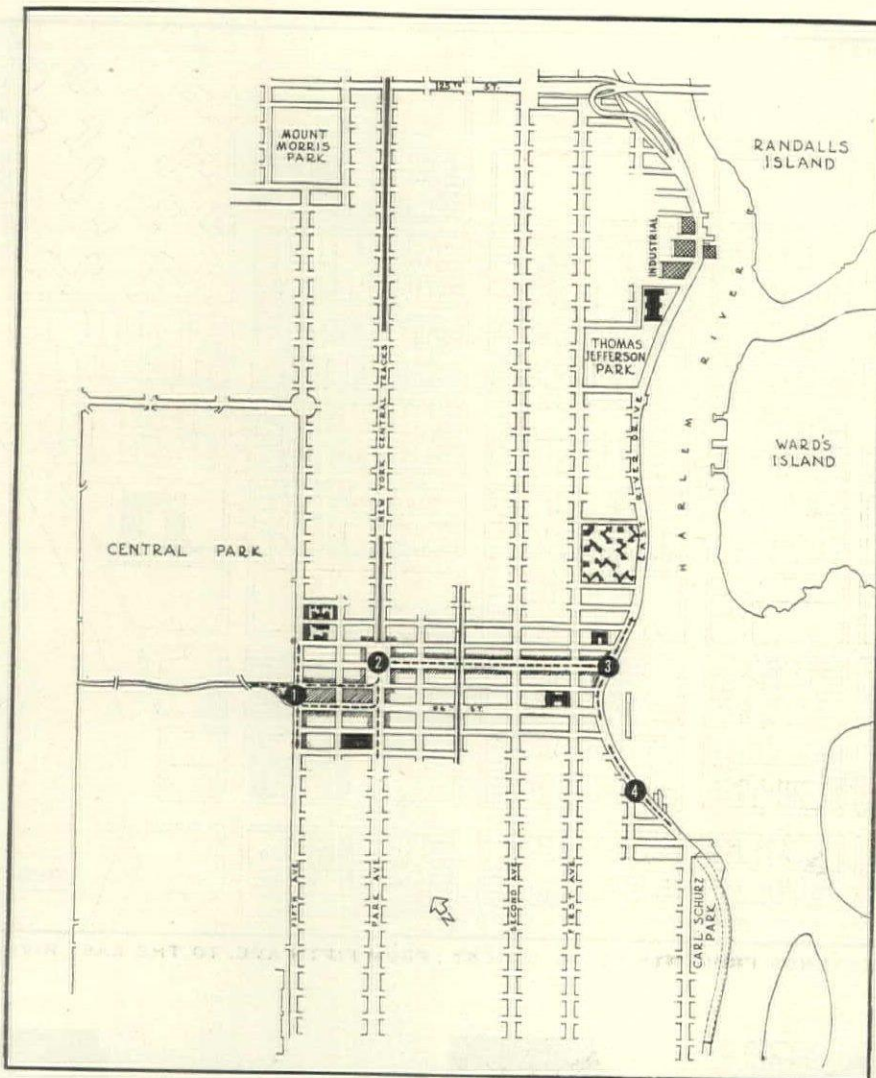
**3. THEATRICAL LOOP CROSSWAY.** Advance planning for the access and parking needs of the congested theatrical district is needed. Through 53rd Street it may be possible to link the west side waterfront with the theatrical district and the Fifth Avenue shopping center by a shelf type upper deck crossway.



**4. EAST MIDTOWN CROSSWAY.** Express approach to and exit from midtown retail shopping area. Abutting property may be developed for transfer shipping, stock storage and midtown motor parking area.

**OTHER ROUTES** should be investigated and alternate advantages considered. These should be weighed for value of crossways as traffic relief as well as their value for tapping areas of arrested development and increasing the availability for improved use.





**5. PARK AVENUE—98th STREET CROSSWAY.** We have selected this particular locality for step by step development. In this area, as well as the four already shown, express crossways appear to constitute a compelling public purpose requiring replanning and redevelopment of the area.

In other localities other types of public purposes may furnish motives more compelling than improved arterial circulation. In this particular locality, we will find, as a result of analysis and planning, that "other considerations" will assume an importance equal to or even greater than the original "compelling purpose." There is need for a worthy plaza terminus for the upper end of Park Avenue. The Express Crossway will connect the area at the waterfront, where development has been retarded, with the most desirable residential area in the city.

**BELOW** is a photograph of the existing conditions between 96th and 98th Street where the tracks of the New York Central Railroad emerge from the Park Avenue tunnel and destroy the effectiveness of the avenue both as an important arterial street and as an avenue suitable for high class apartment development.



## REDISTRIBUTION OF SPACE

Today the cry is for space and elbow-room. It is not so much a reaching out for new spaces as a turning back and an opening up of areas which have been choked because of unplanned growth. We are learning that we have more space than we realize but it has been badly distributed.

Our task is to reorganize our older areas and to redistribute space and the uses to which space is put so that we may eliminate the waste and confusion from which we suffer.

In order to redistribute space it is essential that at some point in the proceedings the existing varied interests must be brought under a unified control.

We may think of unification in terms of the acquisition of all the real property involved either through outright purchase or through eminent domain or a combination of the two.

Or we may think of unification in terms of a merger or pooling of rights subject to redivision and redistribution.

We are confronted with the need for physical change. We should think of this in terms of evolution. If we do, the physical obstacles to be overcome will seem less insurmountable.

We are confronted also with a mass of complex and interrelated rights which are the survival of responsibilities that have been incurred in creating and maintaining the buildings and spaces of which our city is made up. We should think of these not in terms of taking away but in terms of composing and reorganizing.

We are confronted with the need for creating improved social values. We should think of these in terms of social exchange and remember that the purpose of our monetary and credit system is to measure the exchange value of services performed and services enjoyed.

When new values are created in the form of new structures and new municipal facilities, the exchange value of their future use is measured in terms of rent and taxes.

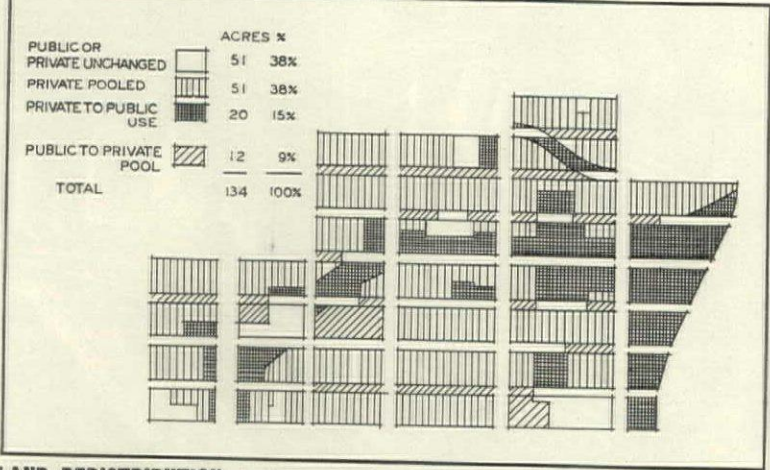
## SPECIFIC REPLANNING PROBLEMS

The 98th Street Crossway area, which we seek to replan, presents many problems aside from the basic problem of the crossway. In the first place, it is at this point that the tracks of the New York Central Railroad come out of the tunnel and Park Avenue changes from a fashionable avenue lined with expensive apartment houses into a dangerous tenement-lined street where the trains thunder by at or above the level of the second-story windows and where pedestrians and vehicles are endangered at each of the blind underpasses, especially when the noise of passing









**LAND REDISTRIBUTION.** A diagrammatic summary of the redistribution of land in terms of public and private use is given above. Below is shown a table indicating in terms of acres and percentages the shifts in use that the suggested redesign of the neighborhood indicates as desirable. It is apparent that the net difference in properties reverting to public use is a mere eight acres. Assuming a minimum of \$3 per sq. ft. or approximately \$7,500 for a 25 ft. lot, this would indicate a net worth of about \$1,000,000 as the amount which should be paid to the district by the city as compensation for the land. In addition, the district should receive payments for capital facilities destroyed as well as for temporary interruption of existing uses during the transitional period.

**REASSIGNMENT OF LANDS—PUBLIC AND PRIVATE EXISTING**

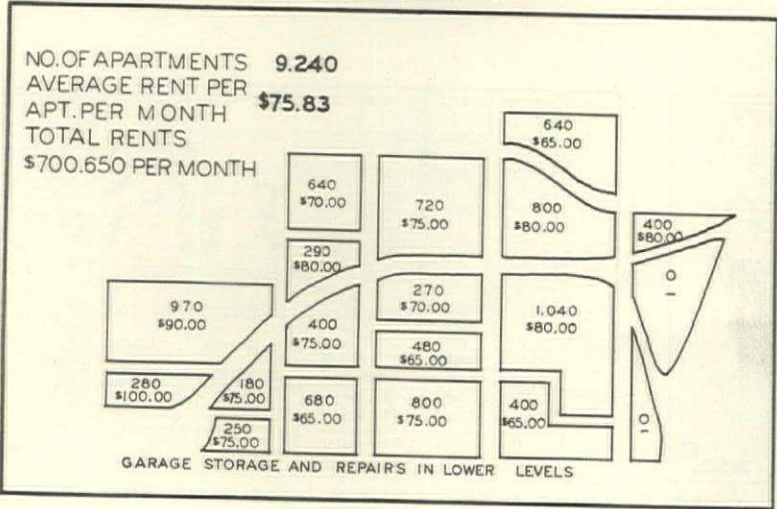
Acres	Per Cent		REDEVELOPED	Acres	Per Cent
134	100%	<b>TOTAL AREA OF 36 BLOCKS AND STREETS</b>	134	100%	
50	37	<b>Area of Streets and Highways</b>	42	31	
		35 acres or 26% unchanged from existing use.			
		1 acre or 1% public property changed to streets.			
		6 acres or 4% private property returned to public use.			
0	0	<b>Area of Parks</b>	22	16	
		7 acres or 5% streets converted to parks.			
		1 acre or 1% other public property converted to parks.			
		14 acres or 10% private property returned to public use.			
11	8	<b>Other Public Property</b>	5	4	
		Unchanged from existing use.			
73	55	<b>Private Property</b>	65	49	
		2 acres or 2% unchanged from existing use.			
		51 acres or 38% of private property pooled for reassignment of use.			
		8 acres or 6% streets pooled with private property.			
		4 acres or 3% other public property pooled with private property.			

trains adds its confusion.

At this point the East River Drive swings in as it follows a bay in the river almost to First Avenue, so that the distance between the Drive and Park Avenue is shorter than anywhere else in town. Along the East River Drive to the north lie undeveloped building sites. For several years abutting property has lain in an indeterminate state and the only developments that have gone forward are a steel bar plant, a sewage pumping station, three schools, and one large scale public housing project. It seems self-evident that if Park Avenue could be turned to the east and a desirable connection formed with the East River Drive, a stimulus might be furnished for a desirable type of development along the waterfront. The effect of this might be far-reaching, for it would be a link between the better class residential sections of the Bronx and Manhattan's most desirable residential center.

Another point that should be considered in the making of the plan is the often repeated slogan that "what we need today is to find a way to bring the 'greenbelt' into the heart of the city." Here the opportunity presents itself; for here lies Central Park, just a little over four-sevenths of a mile distant from the waterfront. If we are to provide open space, here is the place where a comparatively short opening can be used to induce the spaciousness of the waterfront to relate to the spaciousness of Central Park. So in addition to the utility of an express crossway connecting the marginal drives of the Hudson and East Rivers by means of the 97th Street Transverse Road, we will have the added idea of spaciousness. Certainly a sense of space and a sense of connection through space to the two great rivers is a conception worthy of the upper terminus of Park Avenue.

**APARTMENTS AND MONTHLY RENTALS: REDEVELOPED**



**RENTAL UNITS.** On the opposite page is shown diagrammatically the number of existing residential suites in each of the blocks included in the study together with the average rents for these existing family quarters by blocks. At the left is a similar diagram giving the number of residential suites for the new super blocks and the average family rents in terms of dollars per month.

It is at once apparent that although the total number of families has been reduced, the total of monthly residential rents has been increased more than threefold. While the rents suggested will be under the market for this type of quarters, they are high for a project executed by cooperation between the city and private enterprise. It is recommended that rents as high as practical be permitted to be earned in this area on condition that the corporation will maintain as a part of the enterprise a section of low rent housing with accommodations for perhaps 20 per cent of the total families.



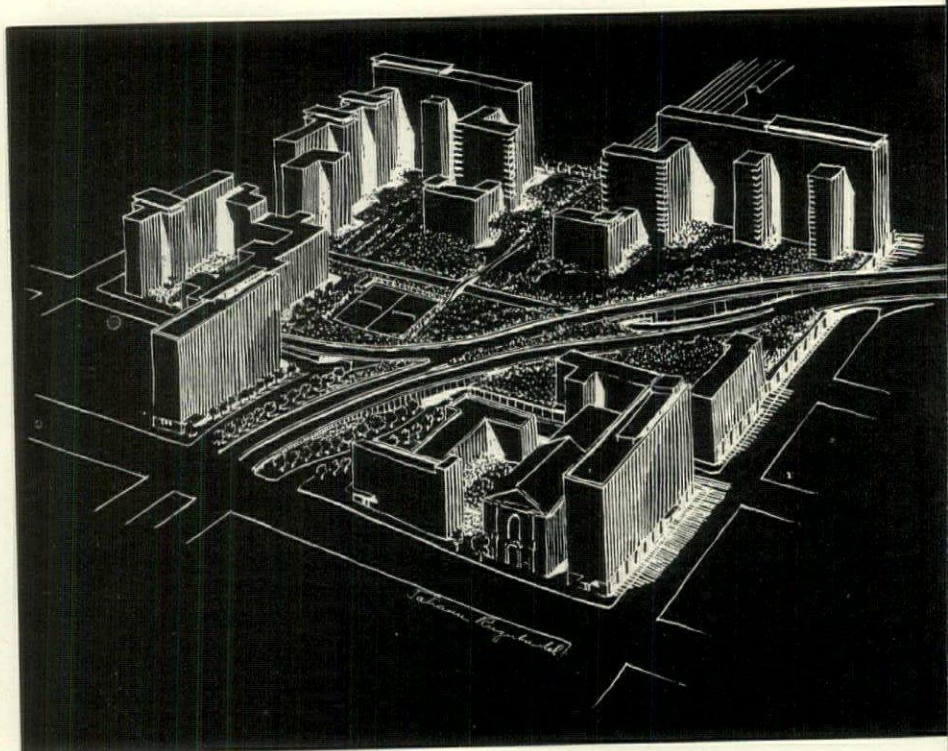
## REDISTRIBUTION OF PUBLIC AND PRIVATE USES

We shall assume that an appraisal of all of the many existing interests which are now involved has been made. Our task is to consider these as temporarily merged, and as subject to reassignment and redistribution. In order to secure the desired public open space, it may be assumed in advance that the existing proportion of public area must be substantially increased. The existing financial condition of most American municipalities has rendered them unable to pay the "just compensation" required to take back the increased public share of the redistributed area. This has been a condition even more difficult to overcome than the task of freeing existing properties from the mass of conflicting obligations which has retarded property assembly and redevelopment. These are, however, two separate and distinct problems although there has been a tendency to confuse the two.

### Subsidies to Finance Reacquisition of Public Space

For example, a federal subsidy has been suggested by the Urban Land Institute in the form of a loan to municipalities for the acquisition of entire blighted areas. It is then suggested that after replanning, the cities might resell the properties which are to be returned to private use presumably for sums adequate to cover both the properties sold and the properties retained by the municipality. It is admitted, however, that it may take many years to pay off the loans and that no city shall be permitted to pledge its credit. Consequently it is evident that the federal government may be faced with the need of forgiving a large part of the debt, especially to those cities who manage urban redevelopment projects in such a way that the sums realized on the resale of lands fail to cover land acquisition costs plus public improvement costs. The attempt is made to justify

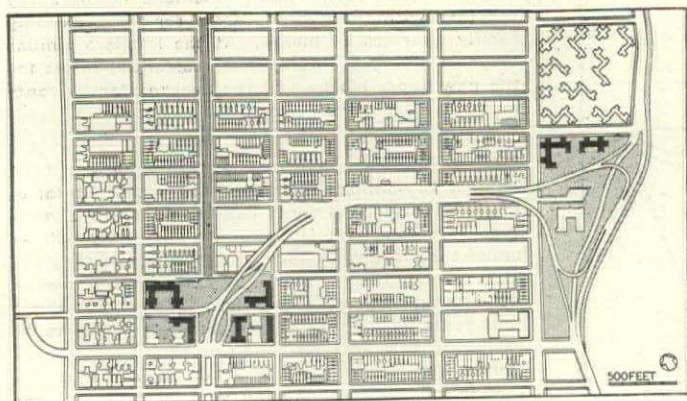
(Continued on page 166)



Design does not burst full blown from the mind of the designer: it is carried for a long time in embryo and is molded and shaped, reshaped and refined during the course of its incubation. The design is not completed until all of the influencing factors have been weighed and merged to produce the best and most logical result.

The perspectives shown above are merely the embryonic beginnings of a design. Nevertheless, in the left hand sketch we can begin to see the fine purpose served by the introduction of a land-

**STAGES 2 AND 5.** The plan must take into consideration not only the ultimate development, but also the most appropriate stage-by-stage progress towards the ultimate scheme. Whether the beginning should be made from the Park Avenue end, or from the river, may depend on factors determined by study of these intermediate stages. An effort should be made to minimize widespread demolition and large areas of land put "out of use" for considerable periods.

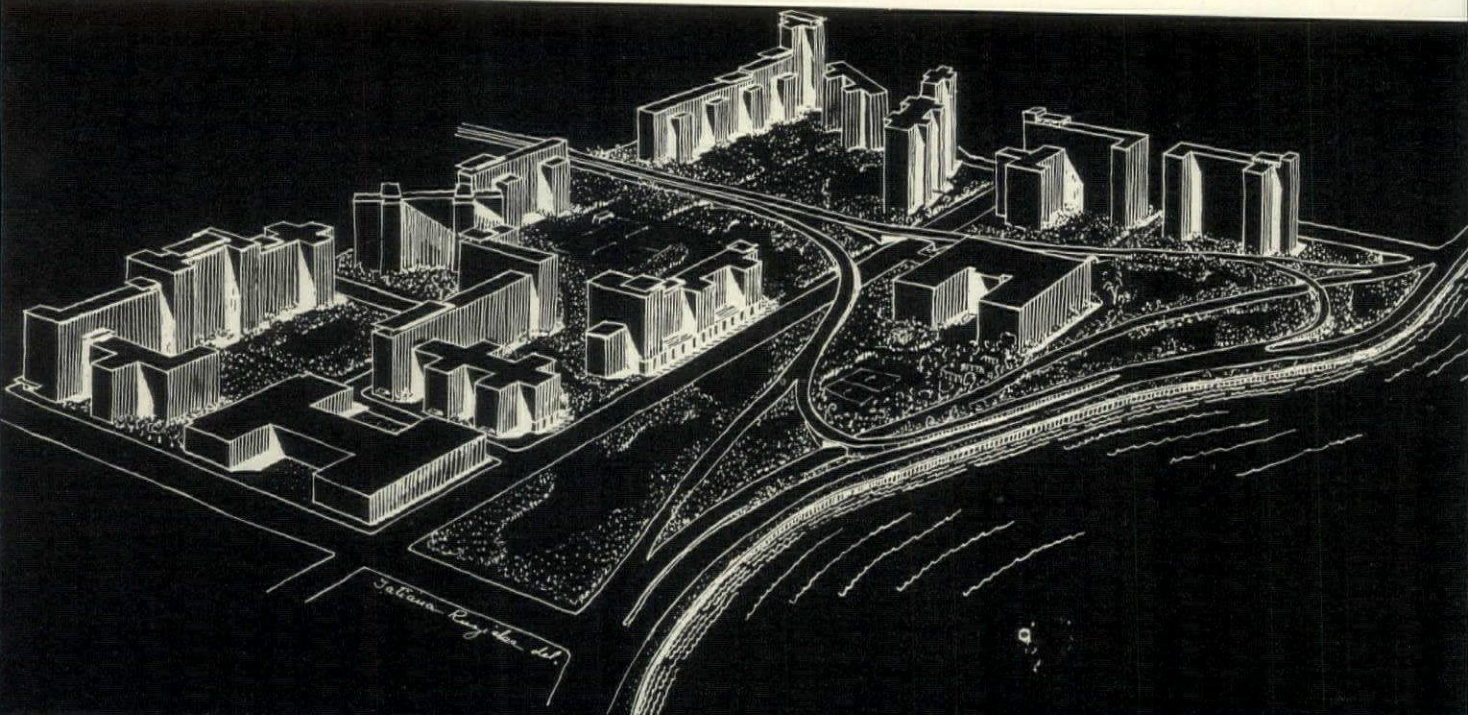


STAGE 2: PARK AVE. TERMINUS AND RIVER TURNOFF



STAGE 5: SEVEN-BLOCK REDEVELOPMENT NEAR RIVER





aped plaza to mark the transitional point at the end of Park Avenue. To the north of this plaza the avenue might be widened and developed for industrial purposes. This could include automobile repairs and produce-warehousing for the shops which serve the residential sectors to the south and east.

The perspective on the right shows the sweep of the greenbelt and from the waterfront drive. (An existing public school has been given an improved site and remains within the "Y" of the

Crossway, and another existing building remains at the corner of First Ave. and 96th St.) On the plan (stage 7 below) tentative locations have been given for groups of modern apartment buildings, with the building masses distributed to maintain a "flow of space" from the greenbelt through the rebuilt area. In the final scheme, advantage would be taken of variations in grade to permit garages and indoor recreation facilities in the basements of the apartments. The proposed low rent housing to the north is not shown.



STAGE 7: COMPLETION OF 32-BLOCK REDEVELOPMENT. PARK AREA JOINS CENTRAL PARK AND EAST RIVER DRIVE.



# TRAFFIC AND THE NEIGHBORHOOD PLAN

Gilmore D. Clarke and Michael Rapuano discuss the elements of neighborhood and inter-neighborhood circulation—the streets, curbs and sidewalks which form the basis of every community.



**CLARKE & RAPUANO**, landscape architects, have acted as consultants on many of the country's most important park and highway developments including the Henry Hudson Parkway and Riverside Drive Improvement in New York City.

**T**HE complete neighborhood, as a unit for living, is now an accepted principle in the development of the city plan. Instead of a sprawling, ill-planned pattern of streets, we now recognize the importance of guiding the development of the new parts of the city as well as replanning those areas designated for redevelopment, in a manner to provide groups of residential neighborhoods with industry generally segregated. Each neighborhood will contain homes for a group of families within a certain range of income with all of the necessary facilities for complete and comfortable living, including park and active recreational areas, health and shopping centers, churches and schools.

To approach the ideal we prefer to specify that the neighborhoods be separated from one another by strips of park land and that the main through traffic arteries be located within these green strips or belts. The automobile has changed our methods of living during the past quarter of a century and it will continue to do so in company with the airplane. It is possible to keep out all motor traffic which has no particular business in the neighborhoods. Each separate neighborhood would then provide a local street system of its own and the ingenuity of the designer would be tested, since he is challenged to make a scheme providing as few streets as possible, and at the same time giving adequate access for each separate home or group of homes.

For years, ever since we have built houses, they were generally arranged so that the living portions of the home faced the street. The garage, at the advent of the automobile, was built in the back yard, thus necessitating a long concrete driveway to connect garage with street. Our newer plans invert the old order which obtained for so many decades, so that the living part of the home is where the back yard used to be, and the garage and the service parts of the home are adjacent to the street. A common use path between properties serves to make access to the homes more pleasant and the children and others are not forced to walk adjacent to the traffic ways.

The design of walks within neighborhoods is an important factor in the scheme. Some must provide for benches, but

benches should be placed (1) so as not to restrict pedestrian traffic, and (2) in places where those occupying them will interfere the least with the quiet of those who live nearby.

In general it is wise to set apart "sitting areas" where mothers may take small youngsters, in and out of baby carriages, and where they will be out of the line of pedestrian traffic.

The so-called cul-de-sac still serves well, provided traffic may make a complete turn at the end. (Fire apparatus requires a minimum 80 ft. diameter inside the curbs or clear space inside of parked cars). The one illustrated (page 132) was designed to fit along the ridge of a "hog-back," with multi-family houses disposed along the sides and down the slopes. Cul-de-sacs should, if possible, not exceed 600 ft. in length unless the terrain demands greater distances. The shorter ones are more serviceable for traffic in that the street connecting with the highway is more readily accessible. In the drawings, note the method used to separate the cul-de-sac from the neighborhood driveway by means of a semi-circular curb forming a bulge; this serves two functions: (1) to narrow the width of crossing for pedestrians and (2) to protect the parked cars.

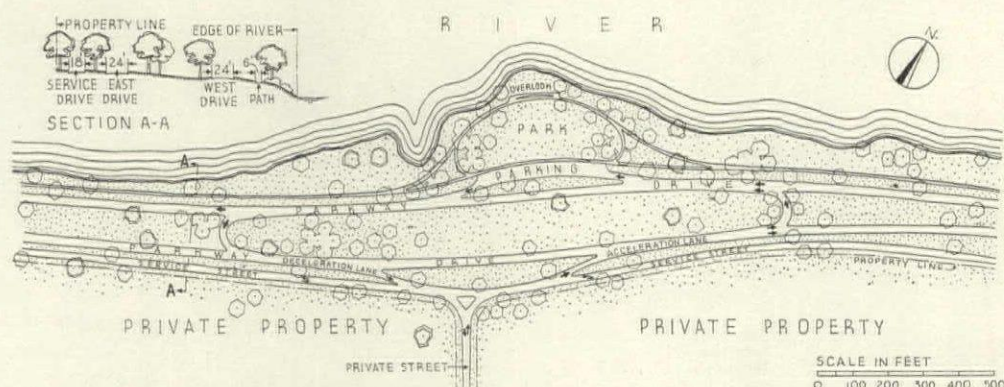
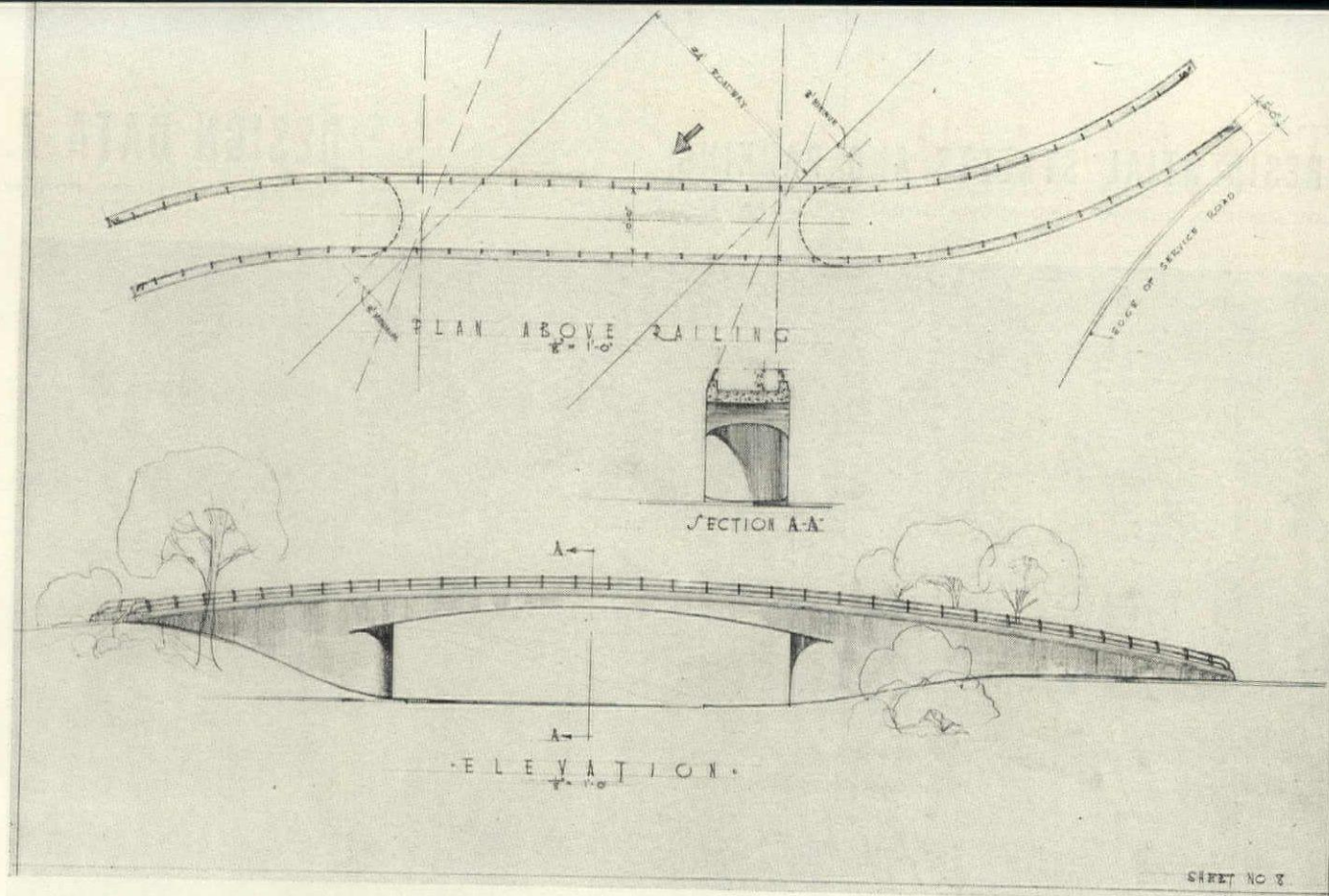
## ARTERIAL HIGHWAYS

Some may ask, what is the difference between a "parkway" and a "freeway," or "through-way"? All have the same physical characteristics in that (1) the abutting private properties have no right of access to the drives, as in the case of the highway; (2) either all or at least the most important crossings at grade with other highways are eliminated by means of bridges; (3) the lanes of pavement for traffic in opposite directions are separated by a strip of green of varied or sometimes of uniform width; and (4) the border lands are usually carefully graded and planted so as to insulate the artery from the privately-owned border lands in order to screen out headlights and lessen the noise of motor traffic. The parkway differs from the "freeway" or "through-way" in that it is restricted to passenger cars.

In some instances one drive, for traffic in one direction, may be located on one side of a small community and the other drive, for traffic in the other direction, may be situated on the opposite side of the town, thus leaving the town in between. You may visualize such a scheme by stretching the two drives, shown in the illustration, far enough apart to build a neighborhood or a group of neighborhoods in between. Each drive would be insulated by park strips.

The borders of small and large rivers and streams, both navigable and non-navigable, which pass through many of our communities, often provide the best locations for through-ways or parkways. The illustration shows a section of parkway along one of our larger rivers, in upper New York State, at a point where it is joined by a local street which connects in a manner to permit traffic to flow



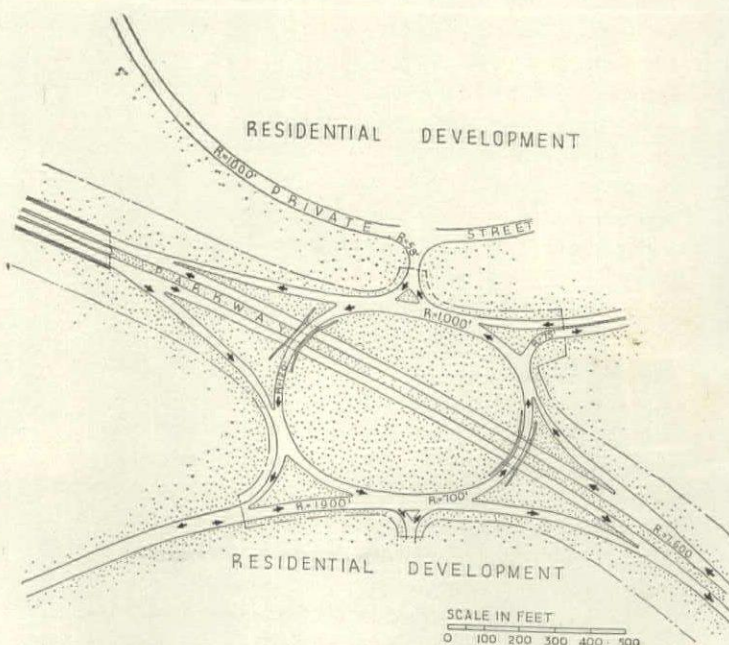


Reinforced concrete footbridge (above) is for pedestrian circulation over traffic streets, and is designed to span the roadway at various angles without changes in design. Representative parkway plans (left and below) show two ways of treating entrances to residential areas from traffic arteries. Scheme at left shows how this problem may be solved without recourse to grade separation, scheme below use of two small overpasses for local traffic.

in any direction by "weaving" across from one single direction drive to the other. Such a scheme is suitable where traffic on the parkway or through-way is not particularly heavy; in the case of this particular project a main highway for through traffic is located elsewhere.

#### ILLUSTRATED EXAMPLES

The various traffic elements illustrated have all been tried out in practice and have proven workable. They are not "new" except in the sense that they are the most recent of a series of continually improved solutions. While these examples may meet situations other than the specific ones they were designed for, the reader is warned not to consider them as "standards" to be followed without discrimination. Our experience in traffic design has tended to show that the most advanced solutions have a way of becoming outmoded before they are completed. There is no reason to believe that postwar requirements will deal more gently with these designs than was the case with their predecessors.



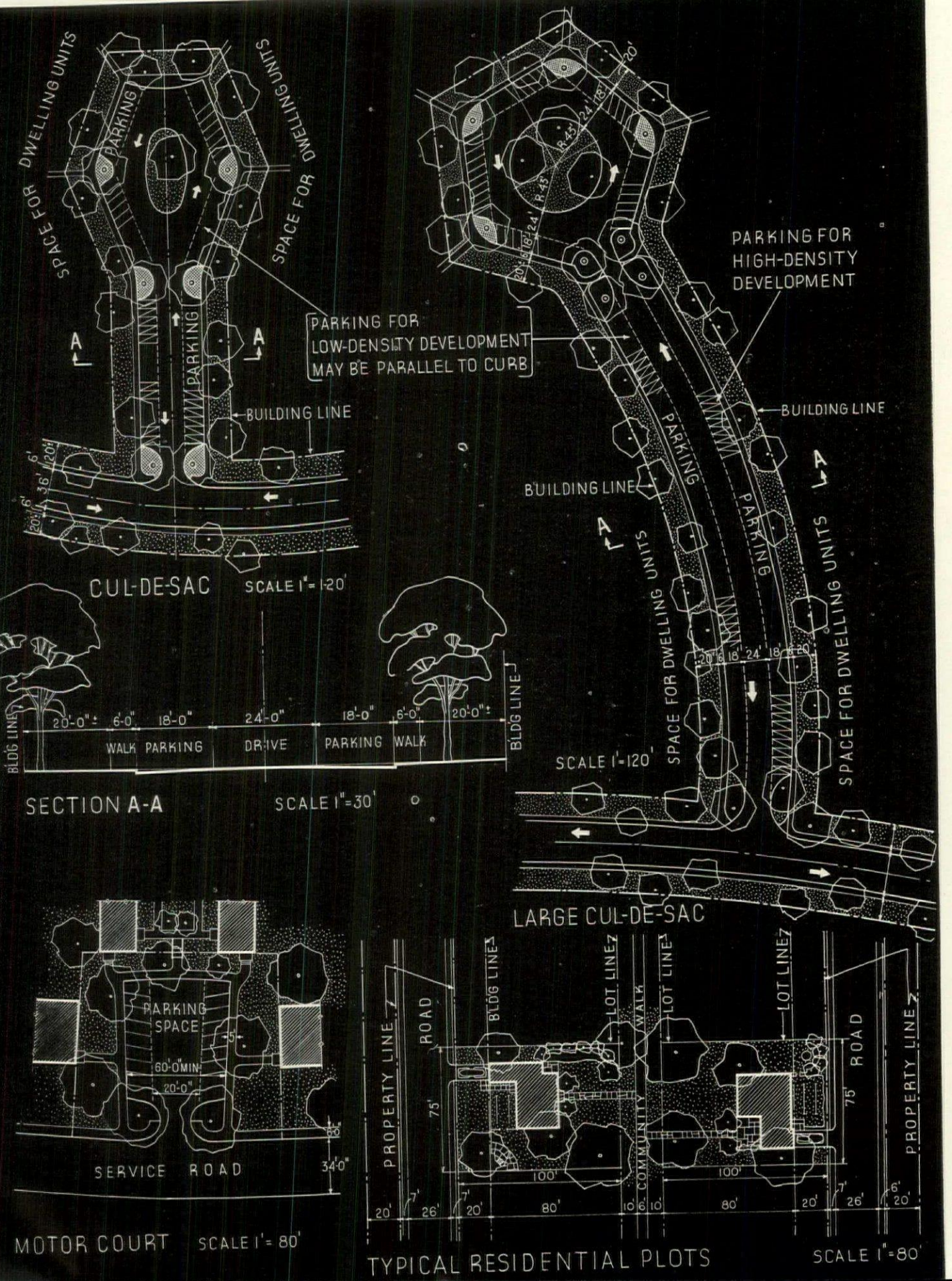


# RESIDENTIAL STREETS AND PARKING

GILMORE D. CLARKE AND MICHAEL RAPUANO, LANDSCAPE ARCHITECTS

# DESIGN DATA 7.

THE ARCHITECTURAL FORUM





# RURAL DEVELOPMENT, 65 FAMILIES, BOSTON

7

Massachusetts team designs a medium-sized protected neighborhood which exploits to the utmost the advantages of a wooded, lake-side site within commuting distance of Boston, Peabody and Lynn.



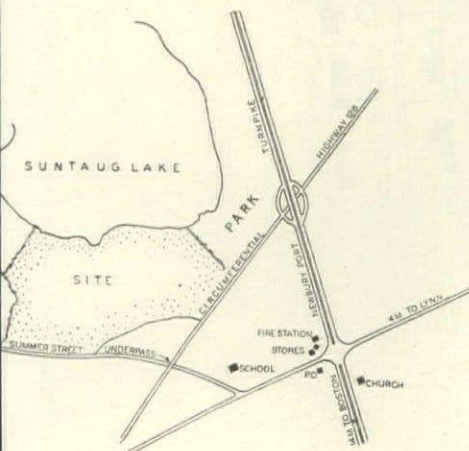
WILLS, PIERCE AND PATTON CONFER



B. S. EDDY

## THE SITE

The project is located some fourteen miles from Boston, about 25 minutes' ride by car directly down the Newburyport Turnpike through the Summer Tunnel. It is a part of Lynnfield and about two miles from Lynnfield Center. Until quite recently South Lynnfield and Lynnfield have been quiet country communities with a few stores and a small post office, grade schools and churches; but with the filling up of other communities near Boston it seems



**ARCHITECT ROYAL BARRY WILLS** was born in Massachusetts in 1895. After receiving his B.S. in Architecture at M.I.T. in 1918 he was a student in the training course for naval officers at the Boston Navy Yard. He worked for William Cramp & Sons Shipbuilding Co., Philadelphia, and for the Turner Construction Co., Boston, until he established his own architectural office in 1925. He was awarded the gold medal by President Hoover for the best small house of 1932 and was one of eight architects to design houses for *Life* magazine in 1938. He is a director of the Congress Cooperative Bank in Boston and is the author of three well known books; *Houses for Good Living*, *Better Houses for Budgeteers* and *This Business of Architecture*.

**ARCHITECT BURTON SECCOMB EDDY** was born in 1916. Following his B. Arch. degree at M.I.T. in 1942 he continued with a year of graduate study. He has worked in the offices of Royal Barry Wills in Boston and Dorothy Draper, Inc., New York. At present he is with the engineering firm of E. B. Badger & Sons Co., Boston.

**BANKER HENRY H. PIERCE**, president of the Merchants Cooperative Bank, Boston, is widely known throughout the banking field in which he has been active for 28 years. In the past few years the bank has taken a leading part in the financing of construction loans and housing developments and is especially interested in postwar housing.

**BUILDER CHESTER S. PATTON** has constructed thousands of houses during the past 40 years and is now engaged in war housing in Maine. L. R. Miller is his associate and general superintendent.

likely that this area will experience a distinct increase in building after the war. Some 200 to 300 houses were built annually in the area in 1939, 1940 and 1941.

The particular site chosen is located just beyond the intersection of the Newburyport Turnpike and Route 128, the partially completed circumferential highway running around the outskirts of Boston from the North to the South Shores. South Lynnfield is approximately two miles from Peabody, a large manufacturing town, and four miles from the city of Lynn, which has a population of about 100,000. Due to the fact that there is very little building land available in Lynn and that the land further along the North Shore is fairly expensive, many people who work in Lynn have in the past few years chosen to purchase homes in Lynnfield.

**Transportation** at present is not as good as might be hoped. It is approximately a mile and a half from one side of the property, along Summer Street, to the Lynnfield Center station of the Boston and Maine Railroad. At present bus service is not adequate, but it is only a matter of a few years before a line will

be established down the Newburyport Turnpike to Boston.

**Schools.** South Lynnfield has a good grade school, which can be easily reached from the property by an underpass. The distance from the property to the school is about  $\frac{1}{4}$  mile. Although there is no high school in Lynnfield, Lynnfield Center has already purchased a site and appropriated money for a high school to be built immediately after the war.

The property itself borders the southwest shore of Suntaug Lake, a considerable body of water at present used as part of the Peabody water supply. This, of course, prohibits the use of the lake for extensive recreational purposes, but on the other hand it prevents an influx of picnickers and campers which has overrun adjacent ponds.

The property is part of a large estate which was sold several years ago but has never been developed. The former owner was interested in trees and planted innumerable birch, pine and hemlock. A majority of these are now fifteen years or more in age, and with the exception of a stretch of meadow and a small field the entire area is well wooded. Since the property is



considerably larger than the proposed project required. It was decided to consider the front half only for development at the present time.

The entire property is assessed at \$25,000. For estimating purposes we have assumed this to be its value and have assigned one-half this amount, \$12,500, to the present project. This means that the cost of the land itself is not great and made it possible to allocate a strip of land around the edge of the property on the highway—and as a matter of fact around the entire edge of the property—for protective purposes. This land will be held by the original developers as protection against encroachment.

In addition to the protective value of the shores of the lake, the site is also screened by a small town park which boasts a couple of tennis courts and a small ballfield. The playground facilities thus provided have been rated an asset rather than a detriment, as they are not used for any undesirable purposes.

Most of the site is well above the high-water level of the lake, but fortunately not so high as to make road and house construction difficult. Water, gas and electricity are available, but a sewer is not. However, the gravel soil is ideal for the use of septic tanks.

### SITE PLAN

In preparing the site plan, we made several rules to guide us in the layout:

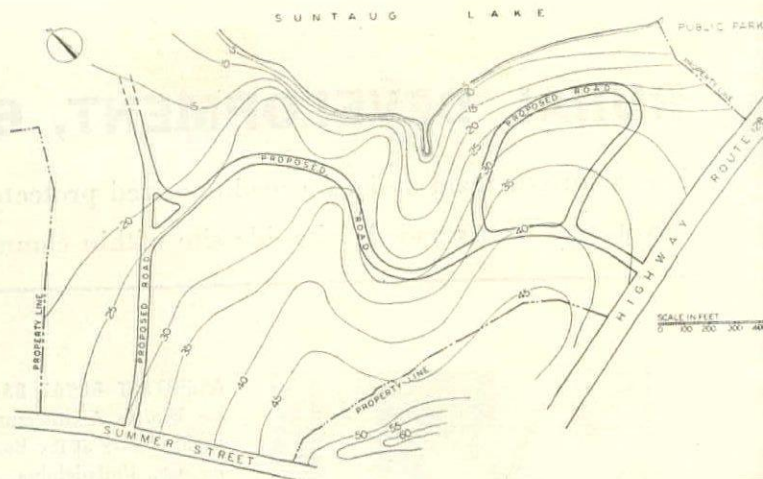
1. Traffic hazards must be avoided as much as possible.
2. All lots should enjoy a pleasant exposure, with as many as possible bordering on the lake.
3. All lots should have access to the lake by way of paths, without using the roadway.
4. The entire community should be protected from outside encroachments.
5. The development should have an inlet and an outlet to make it more accessible and reduce the amount of travel by the occupants at any one entrance.

The original layout called for a single road with one row of lots bordering the lake and another row facing the street. This was rejected on the ground that it would encourage through traffic and restrict the benefits of the lake to a single row of lots. A second scheme considered was the use of two loops of road, but this was abandoned because it would put all of the houses on traveled roads.

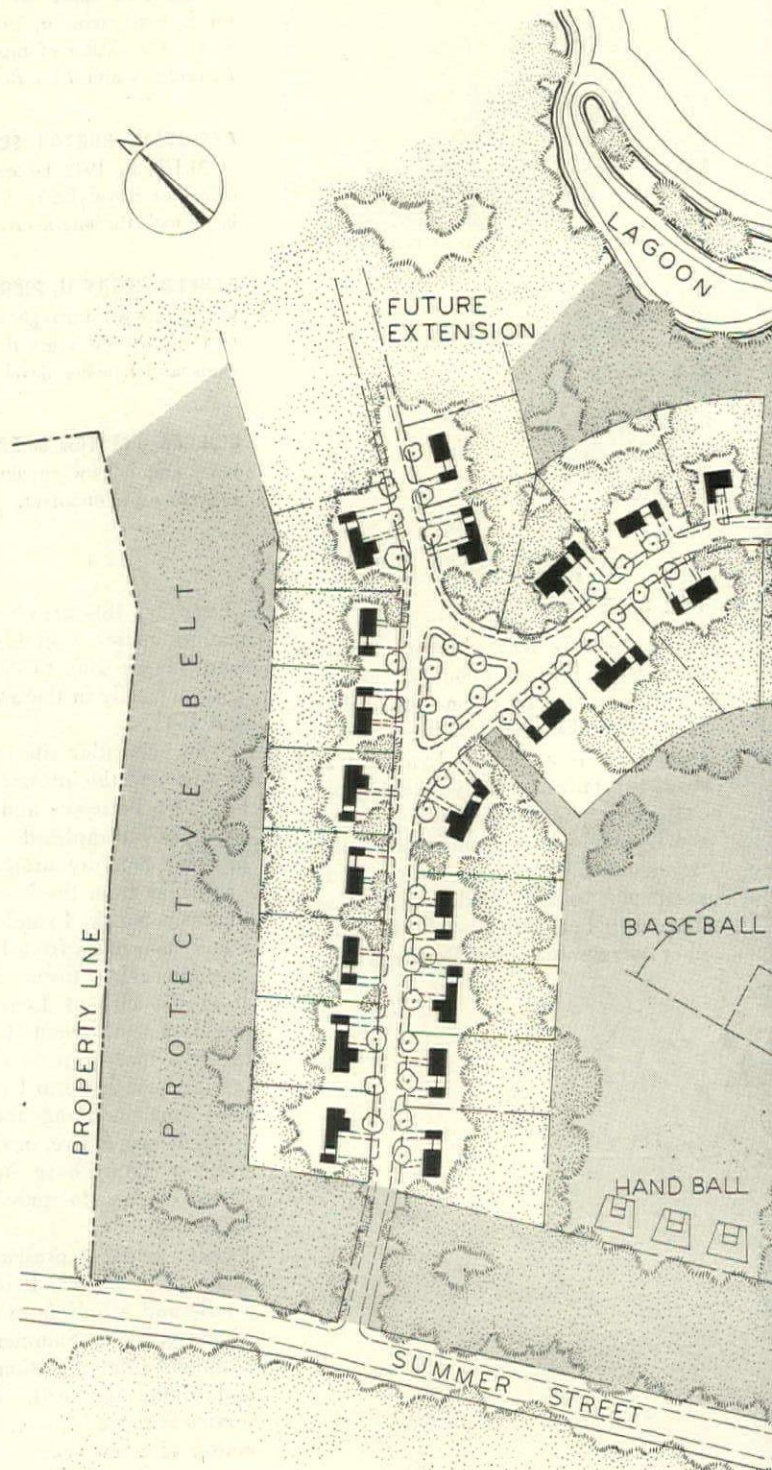
In the third layout we developed the winding road with the horseshoe loop extending along the shore used in the final scheme. This plan also called for a *cul-de-sac* extending houses back into the area occupied by the play field in the final design. This *cul-de-sac* was ultimately abandoned because of its inherent disadvantages from the standpoint of traffic circulation, fire protection, etc., and also because it extended into the least desirable land from the development standpoint, and it was felt better to use this land for community purposes.

The minimum lot requirement for Lynnfield has recently been increased to 100 ft. frontage and 10,000 sq. ft. area. For this reason the lots are all at least 100 ft. wide, with a depth of over 125 ft. This was considered feasible from the economic standpoint because our estimates showed that the largest cost was in the development of the roads rather than the raw land.

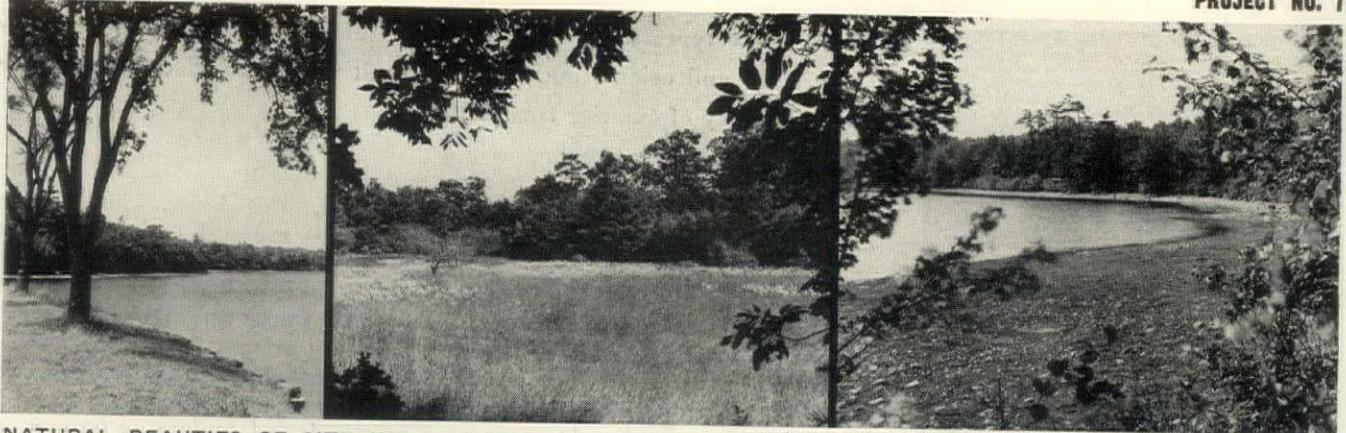
Near the center of the property there is a cove from the lake. We extended the park around this and if the permission of the authorities is given plan to wall it off to form a wading pool, at the eventual center of the development.



SINGLE WINDING ROADWAY AND SIMPLE LOOP EXTENSION CRE







NATURAL BEAUTIES OF SITE INCLUDE THE LAKE FRONTAGE, MANY FINE TREES, AND GENTLY ROLLING LAND

SITE PLAN OF OUTSTANDING MERIT WITH AN UNUSUAL QUANTITY OF OPEN LAND. ALL LOTS ADJOIN COMMON AREAS





Plan A started with the idea of an all round flexible plan, which would fit many lots, and have many possible variations and would contain everything that the average family might want.



Since good views were in general to rear, L.R. & DR. were placed on rear. First Floor worked out easily.



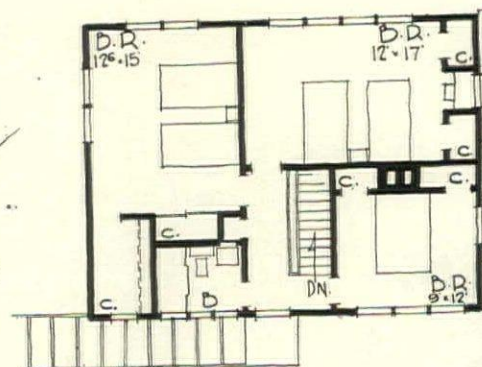
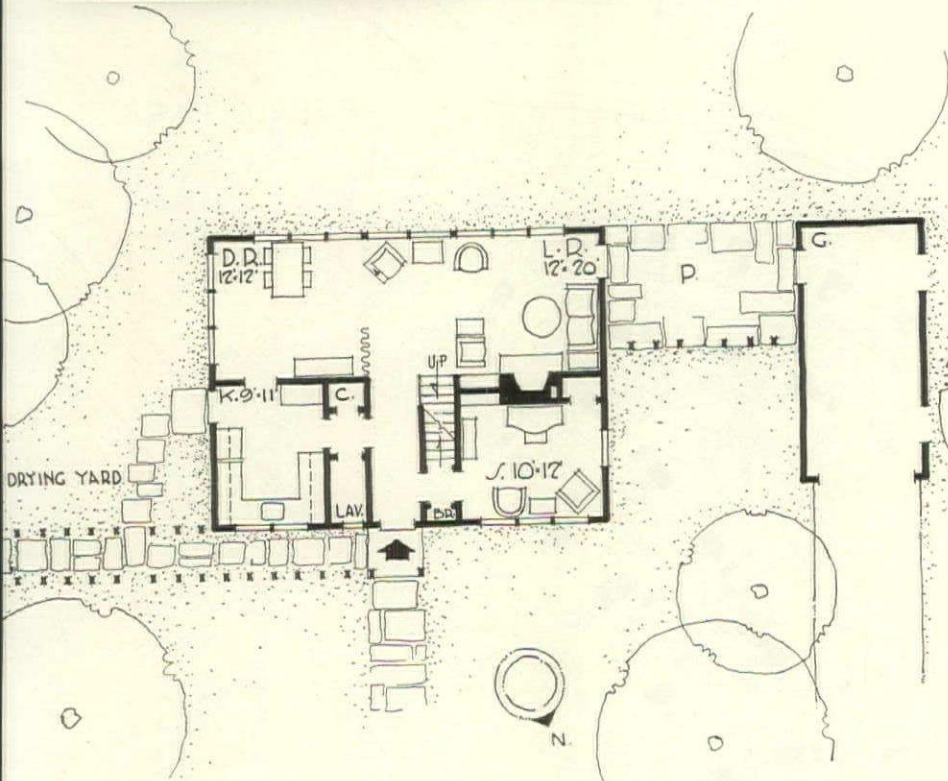
2 Good Closets in each BR. This one big enough for future bath.

Second Floor worked out readily. Stairs were tight so we added one foot to size.

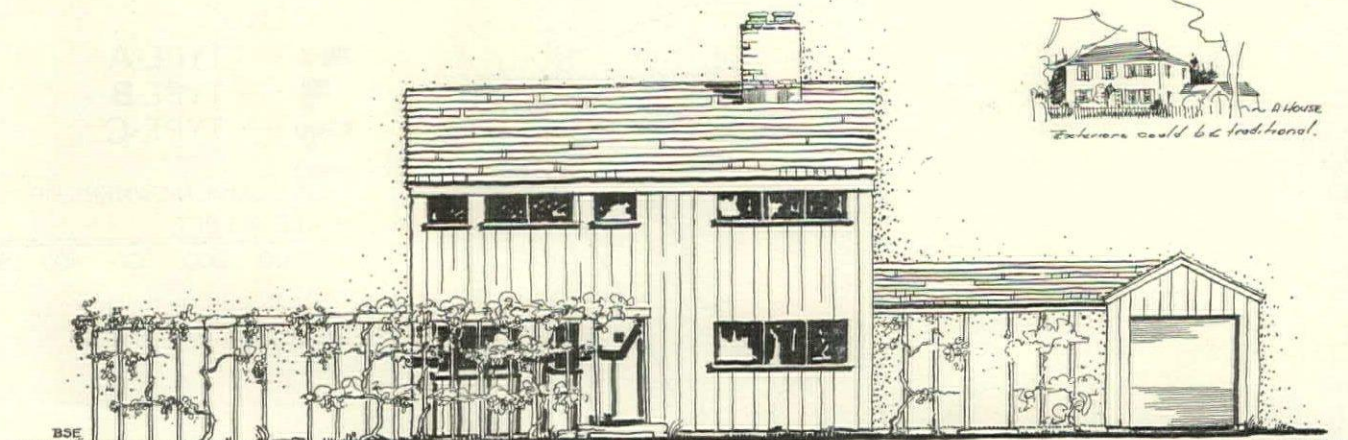
Three house types were developed to fit actual site conditions, such as slope, view and orientation, and to permit variety of placement on the lot and variety of exterior treatment.

In working out the plans, we proceeded on the basis of obtaining a good workable plan, with a minimum of consideration to the exterior design. The result has been a modern treatment for the exteriors. Fortunately for purchasers who may wish a more traditional treatment, the same plans may be used with conventional exteriors. The reason for this approach was that we hoped to inject a maximum of new ideas without being restricted by traditional requirements on the one hand or to forced modern on the other.

**TYPE A.** This house, although the largest, is expected to have the best sale, since it will more nearly meet the requirements of the average family. It permits of some ten variations of placement and exterior treatment, and the garage and porch may be located in interesting and strategic ways to form courtyards and gardens, or terraces in the case of sloping lots. It was arranged with the living rooms at the back to take advantage of the view of the lake in the lakeside locations. The combined living-dining room is 32 ft. long.

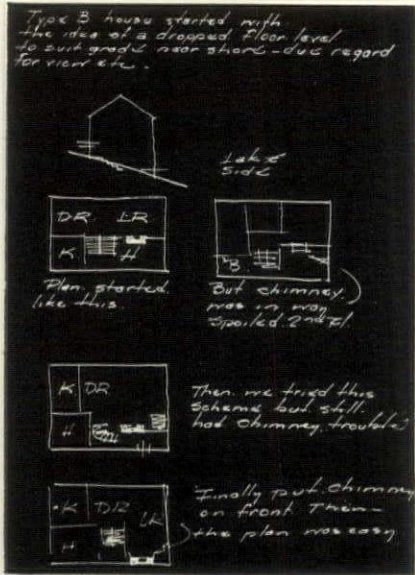


SCALE:  $\frac{1}{16}'' = 1'-0''$



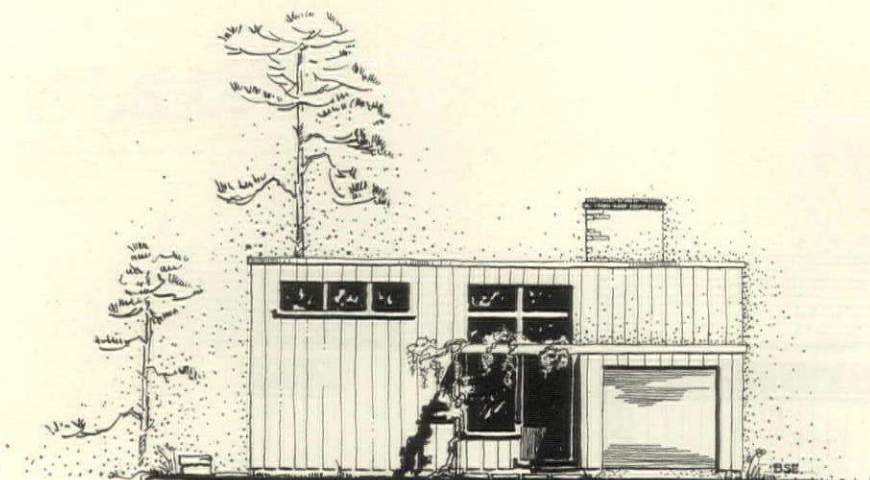
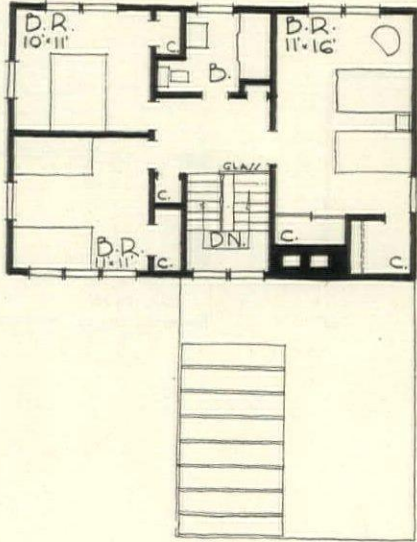
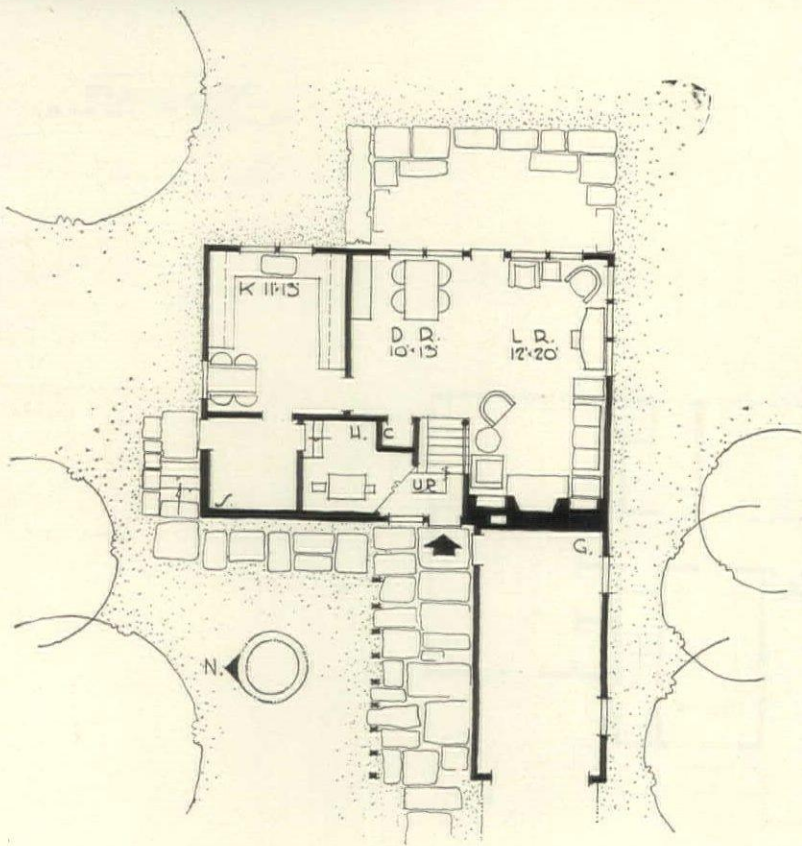
MODERN EXTERIOR RESULTS DIRECTLY FROM PLAN, BUT TRADITIONAL TREATMENT WOULD ALSO BE OFFERED





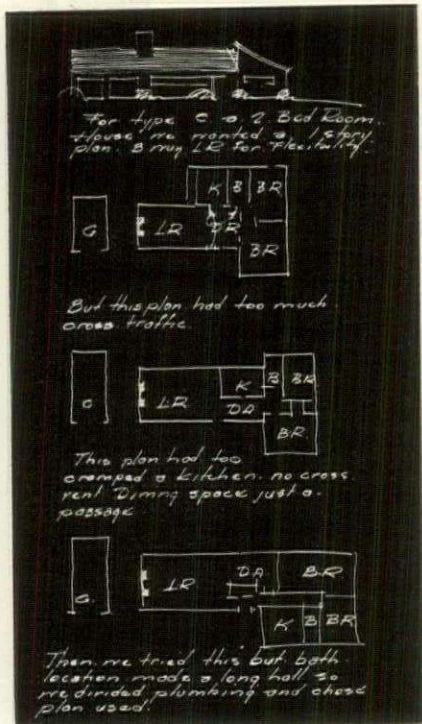
**TYPE B.** This was the first house designed, and is intended for the sloping lots on the edge of the lake. The front entrance is onto a mezzanine landing of the stairway, with steps going down one-half a story to the first floor, and up a half-story to the upper level. This particular plan is not as variable as the others, but it can be reversed from left to right and the exterior changed in various ways so that it is suitable for a number of lots. As in the case of house A, living rooms are at the back to enjoy the lake view, and in addition the kitchen is also on this side of the house. Because of the half-level scheme, this plan has its heater room on the first floor, and does not require a basement.

**SELLING PRICES.** To make construction as economical and efficient as possible, three basic designs were developed to serve the entire community with appropriate variations. Houses are presented in inverse order of price. House A, the most expensive, is designed to sell for \$8,500 to \$9,500, depending on the value of the lot. House B (this page) would sell for \$7,000 to \$8,000 according to location and House C, shown on the next page, for \$6,200 to \$7,000. The plans provide 2 to 3 bedrooms, and House A has an additional ground floor study which might be used for sleeping in conjunction with the ground floor lavatory. Detailed cost estimates, down payments and monthly charges are on page 139.



HOUSE FOR SLOPING SITE HAS ENTRANCE ON INTERMEDIATE LANDING



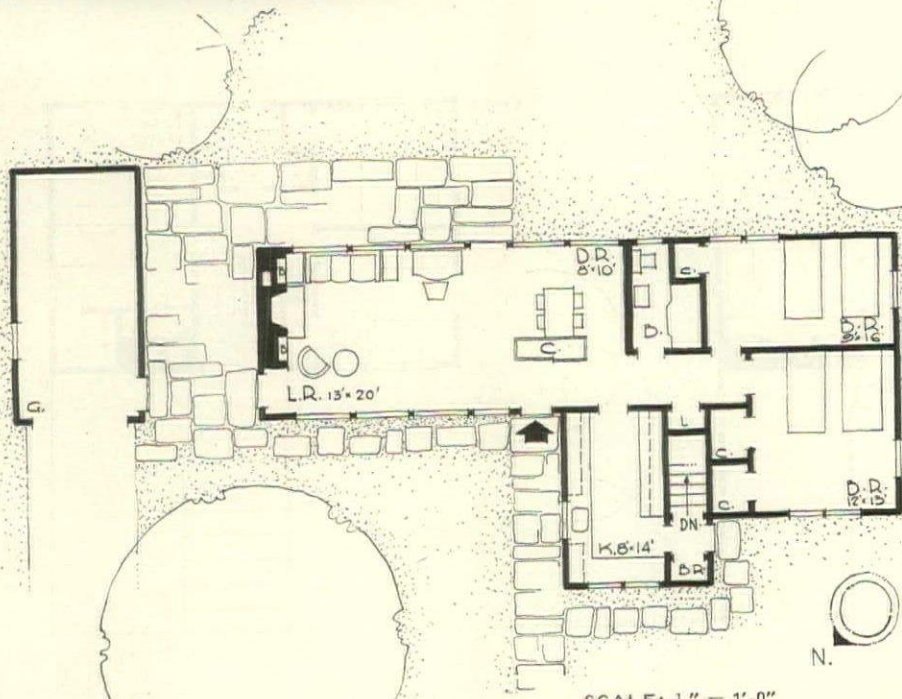


**TYPE C.** This plan, while the least expensive of the three types, is also the most flexible. It was designed with the living room open on three sides in order to provide maximum flexibility of exposure for the various orientations of the lots. By readjustments of the living room arrangement, and through changes in the position of the fireplace and garage, it will be possible to utilize any of the three walls for the maximum glass area suitable for a south wall. It may be reversed from left to right, and also placed end-on to the street. Used in this way, it would both add variety to the development and result in a more perfect adaptation of the individual houses to their particular locations.

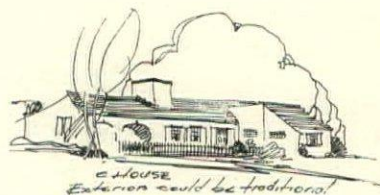
While developed for the smallest houses in the project, the C plan might also be used to produce the largest of the houses. By a slight rearrangement of the stair two additional bedrooms, with or without an extra bath, can be added on a second floor. It would also be possible for purchasers of the regular type C house to make these alterations later on, to meet the needs of a growing family. The estimated construction cost of the house, exclusive of land, is \$4,800. With the additional bedrooms and bath, it is estimated to cost \$6,100, or \$1,300 more. If alterations were made after the house was complete they would probably cost about \$1,500, bringing the total investment, with an average lot, to about \$8,000.



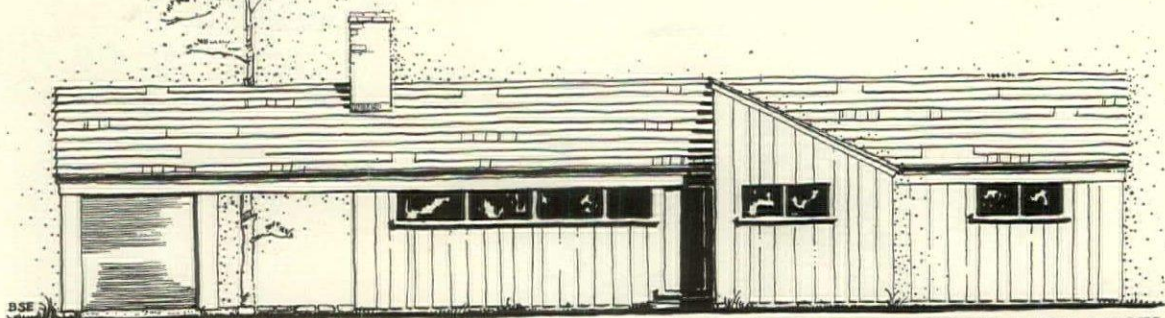
Type C House could have 2 Bedrooms added on second floor & look like this.



SCALE:  $\frac{1}{8}'' = 1'-0''$



C HOUSE Exterior could be traditional.



ONLY SINGLE-FLOOR HOUSE IN THE DEVELOPMENT, TYPE C HAS TWO BEDROOMS, SHED ROOFS



## ESTIMATED COSTS AND SELLING PRICES

In determining the type of housing appropriate to the location, it was necessary to consider the income bracket that the housing would probably serve. There are a number of young executives working in Lynn and Boston whose incomes are from \$3,500 up to about \$6,000 a year. Such incomes justify houses selling for \$6,500 to \$10,000. The three types of houses developed were designed to cover this range, and at the same time satisfy average requirements. Exact selling prices would vary according to the prices of the lots, which would range from \$1,500 to \$2,000 according to size and location. The estimated prices are based on average lot costs appropriate to the various units. The architect's fee is absorbed in the development cost of the land, and included in the lot prices.

## Type A house on a \$2,000 lot

Construction cost (estimated)	\$6,900
Land	2,000
Broker's fee	350

Selling price	\$9,250
Taxes	
Assessment @ 80%	\$7,400
Tax rate @ \$23.80	\$176.12
Monthly	\$14.68

Mortgage	
Down payment (20%)	\$1,850
Mortgage loan	\$7,400
Mortgage \$7,400 @ 5½% for 16 years	
Interest and amortization	\$58.04
Real Estate tax	14.68
Water tax	1.00
Insurance	1.00
Bank share	1.00

Monthly payments	\$75.72
------------------	---------

## Type C house on a \$1,500 lot

Land	\$1,500
Construction cost (estimated)	4,800
Broker's fee	150

Selling price	\$6,450
Taxes	
Assessment @ 80%	\$5,160
Tax rate @ \$23.80	\$122.81
Monthly	\$10.24

Mortgage	
Down payment (approx. 20%)	\$1,250
Mortgage loan	\$5,200
Mortgage \$5,200 @ 5½% for 16 years	
Interest and amortization	\$40.79
Real estate tax	10.24
Water tax	1.00
Insurance	.75
Bank share	1.00

Monthly payments	\$53.78
------------------	---------

## Type B house on a \$1,800 lot

Construction cost (estimated)	\$5,700
Land	1,800
Broker's fee	300

Selling price	\$7,800
Taxes	
Assessment @ 80%	\$6,240
Tax rate @ \$23.80	\$148.51
Monthly	\$12.38

Mortgage	
Down payment (approx. 20%)	\$1,500
Mortgage loan	6,300
Mortgage \$6,300 @ 5½% for 16 years	
Interest and amortization	\$49.42
Real estate tax	12.38
Water tax	1.00
Insurance	1.00
Bank share	1.00

Monthly payments	\$64.80
------------------	---------

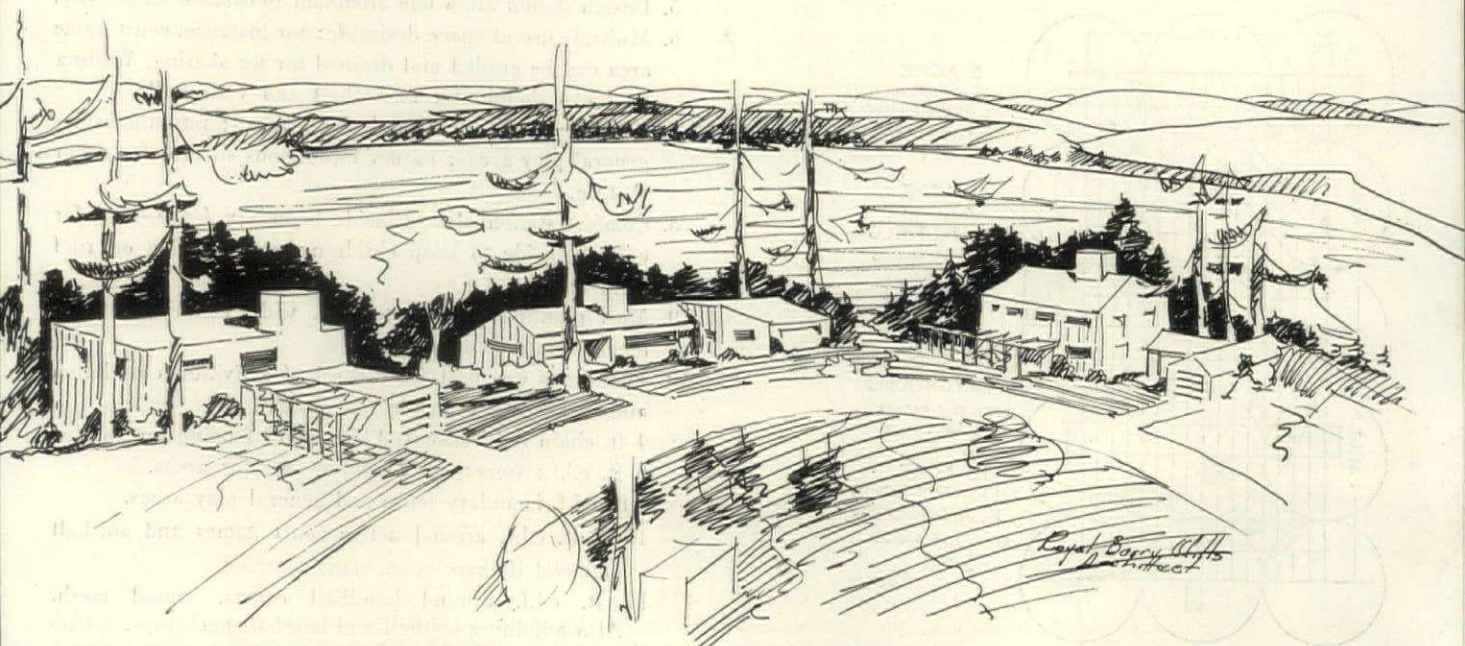
## Alternate Type C house on \$2,000 lot

Construction cost	\$6,100
Land	2,000
Broker's fee	300

Selling price	\$8,400
Taxes	
Assessment @ 80%	\$6,720
Tax rate @ \$23.80	\$159.94
Monthly	\$13.33

Mortgage	
Down payment (approx. 20%)	\$1,600
Mortgage loan	6,800
Mortgage \$6,800 @ 5½% for 16 years	
Interest and amortization	\$53.34
Real estate tax	13.33
Water tax	1.00
Insurance	1.00
Bank share	1.00

Monthly payments	\$69.67
------------------	---------



BASIC HOUSE TYPES RING LAKE SHORE ON LOOP DRIVE. TYPE B. HOUSE IS AT LEFT, TYPE C. AT CENTER, A. AT RIGHT



# PLAYGROUND DESIGN AND EQUIPMENT

Examples of executed work by the New York City Department of Parks demonstrate to the planner the high level already reached in the layout of playgrounds and design of equipment.

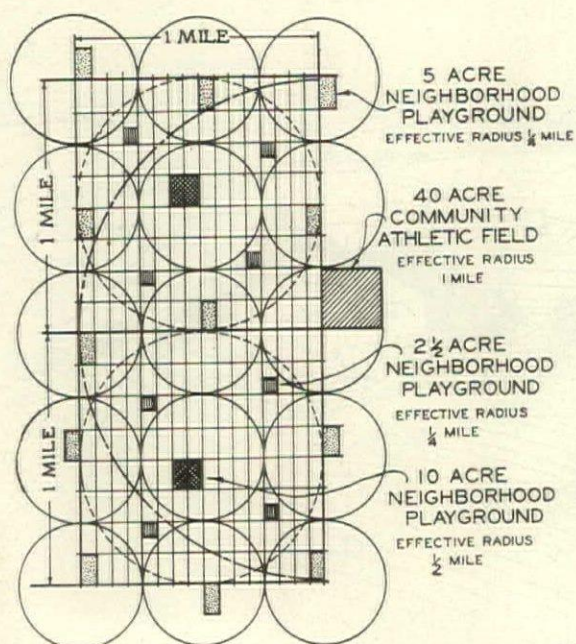
**T**HE planning problem as regards neighborhood playgrounds may be divided into two general categories. One is the approach to the existing neighborhood. The other deals with the project for a completely fresh site.

Most existing practice is based on the former. Practically no park department can map out and follow an "ideal" scheme. Either the land is not available or funds are insufficient, and the development of parks and playgrounds inevitably tends to be rather spotty.

Where a completely new project is set up, the planner can provide a complete recreational pattern which—theoretically—would meet all the needs of the inhabitants. Here too, however, familiar obstacles emerge: land costs may not permit full allocation of the areas required, or funds for maintenance may not be obtainable. Nevertheless, the tendency is to give fuller recognition to playground requirements.

There have been a number of attempts to set up standards for playgrounds in residential areas. The diagram below, reproduced by courtesy of the Chicago Regional Planning Association, is an example. It will be noted that the recommendation holds only for a specific density.

The plans on the opposite page, and the equipment details which follow, represent some of the best playground design which has yet been produced. All were developed by the New York City Department of Parks under the direction of Robert Moses. Their value lies in the fact that they are the culmination of many years of designing, operating and redesigning. Every dimension has been checked on the basis of actual use, as has every detail. The following notes were furnished by the Department of Parks.



THEORETICAL PLAYGROUND DISTRIBUTION AT AN AVERAGE DENSITY OF 12 PERSONS PER ACRE

## MARGINAL PLAYGROUNDS

These are usually located in general park areas and are for the youngest children. Many small playgrounds are considered preferable to a few large ones.

Equipment includes shower basins but no wading pools. Sometimes a tool house is included, but this is determined by the type of maintenance available. No comfort station. No playground director needed.

These areas are always fenced and provided with a gate which can be locked. Benches should be generously provided, as each child is usually with an older person. There is a limited amount of free space for running and tricycling.

## SMALL NEIGHBORHOOD PLAYGROUND

Both sizes of apparatus are installed, in separate areas. If the neighborhood has no handball courts, two are often put in. If a choice must be made between an open play area and a wading pool, the latter is omitted and a shower basin substituted. A comfort station is usually included.

Depending upon the neighborhood, some playgrounds are open evenings and require lighting. Park lighting for general areas is usually sufficient. For games (softball, court games, etc.) floodlights are provided.

## GENERAL NOTES

1. Standard sizes of playground units determine division of the area. Several typical sizes for equipment, pools, etc.
2. Desirable to leave largest possible area for active play.
3. Minimum of space in the apparatus areas. Kindergarten area close to main entrance.
4. Main entrance near building. Wading pool usually in front of comfort station.
5. Design should allow one attendant to oversee all activity.
6. Multiple use of space desirable: for instance, court game area can be graded and drained for ice skating. Wading pool can double for basketball and volleyball.
7. Concrete for handball and shuffleboard; bituminous for general play areas; harder bituminous surface for roller skating.
8. Comfort station always inside boundary fence—and far enough inside to keep children from jumping on roof from fence.
9. Most planting strips 6 to 8 ft. wide, containing trees, block paving and benches.
10. Fencing is essential for control of activities, circulation and to keep balls inside playground.
  - 4 ft. chain link fence (c.l.f.): guard fencing for swings.
  - 6 ft. c.l.f.: sometimes to define interior areas.
  - 8 ft. c.l.f. boundary fence and general play areas.
  - 10-12 ft. c.l.f. around active court games and softball diamond if there is an ample outfield.
  - 16 ft. c.l.f. around handball courts. Small mesh. Also adjoining softball and baseball backstops. Sometimes around entire outfield.

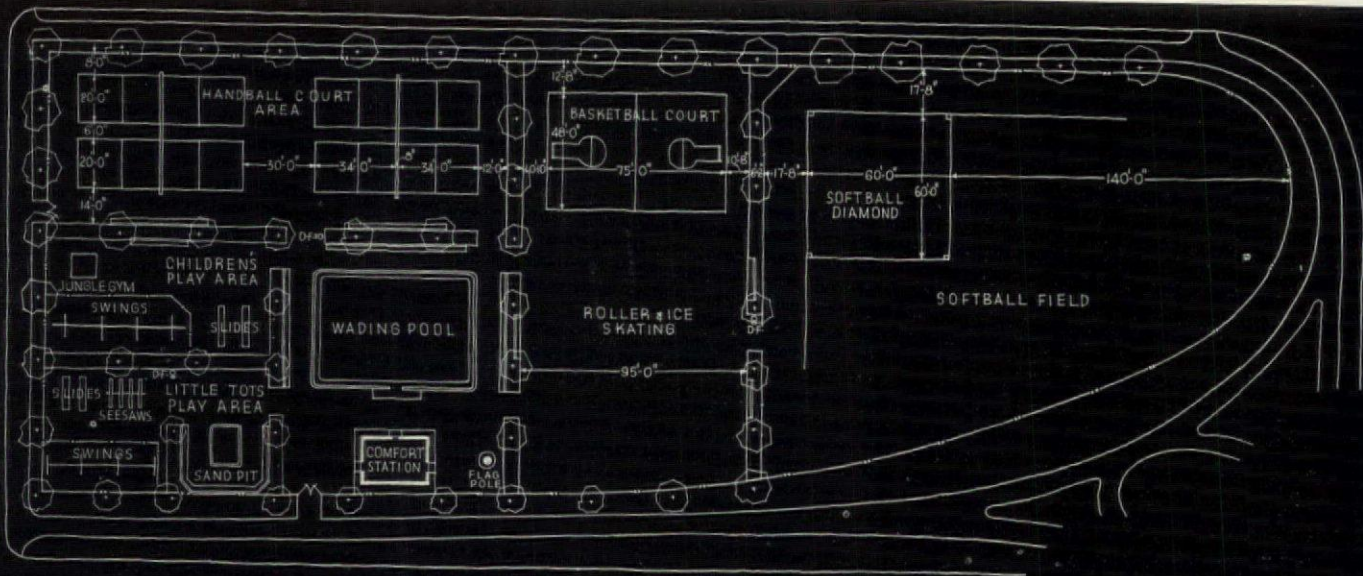


# PLAYGROUND LAYOUTS

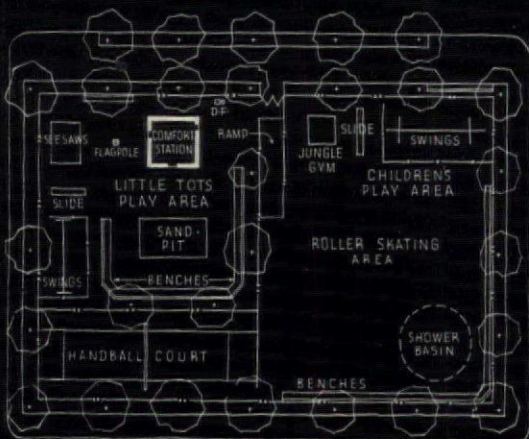
NEW YORK CITY DEPARTMENT OF PARKS

# DESIGN DATA 8

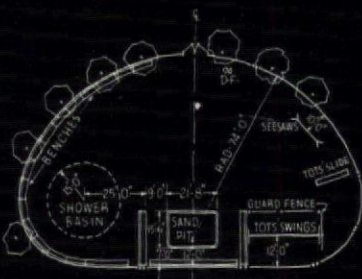
THE ARCHITECTURAL FORUM



COMBINED PLAYGROUND FOR CHILDREN AND ADULTS  
TYPICAL LAYOUT SHOWING A GOOD RELATIONSHIP OF REQUIRED ELEMENTS

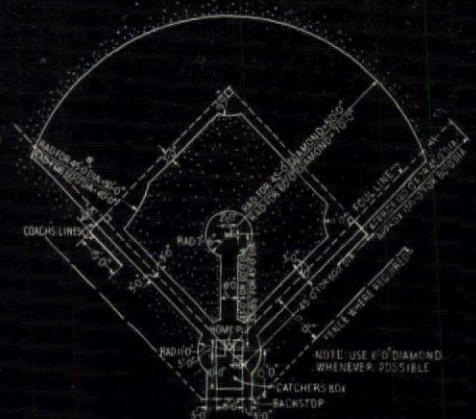


CHILDREN'S PLAYGROUND  
SUGGESTED RELATIONSHIP FOR RECTANGULAR AREA

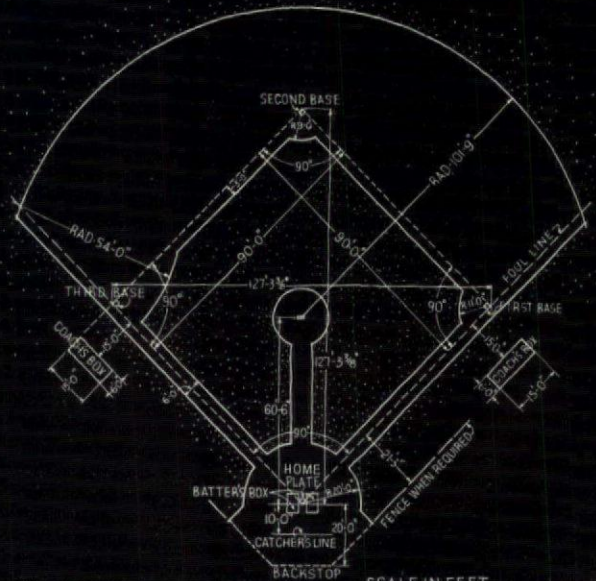


TOTS' PLAYGROUND  
SHOWING ADAPTATION TO IRREGULAR SPACE

SCALE IN FEET



SOFTBALL DIAMOND



BASEBALL DIAMOND SCALE IN FEET



NEW YORK CITY DEPARTMENT OF PARKS

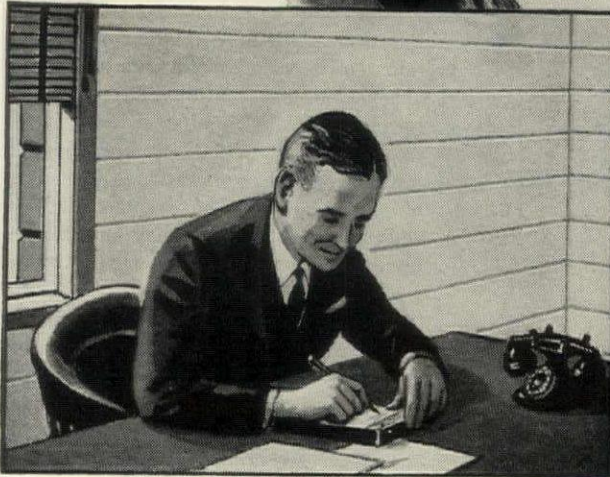
## THE ARCHITECTURAL FORUM



SCALE IN FEET







- ✓ ASPHALT-SEALED SHEATHING
- ✓ INSULATION LATH
- ✓ BUILDING BOARD
- ✓ THRIFTEX WALLBOARD
- ✓ ROOF INSULATION
- ✓ DECOBLEND TILE AND PLANK
- ✓ COLORED TILE AND PLANK

**I**N your present and post-war plans, Flintkote Insulation Board Products can be as important and profitable a factor as Flintkote's long-famous roofing materials.

Uncle Sam's demands have until now put practically all of Flintkote's tremendous production of Insulation Board Products into war construction. Ever since completion of the huge Flintkote Insulation Board Plant, at Meridian, Miss., these products have been proving themselves "in active service."

Dealers and builders who have used them and seen their ability to go up quick and their unusually attractive appearance are enthusiastic "salesmen" for all Flintkote Insulation Board materials.

In both the structural and decorative fields, it will pay you to check the advantages of Flintkote's Insulation Board Products today . . . for tomorrow!

The Flintkote Company, 30 Rockefeller Plaza, New York 20, N. Y.

# Flintkote

## INSULATION BOARD PRODUCTS

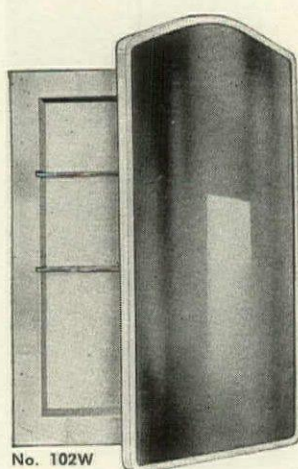
NEW YORK...ATLANTA...BOSTON...CHICAGO HEIGHTS...DETROIT...LOS ANGELES...NEW ORLEANS...WACO



*Eye Appeal  
and plenty of it  
in*

**MIAMI**

*"Streamlined"*  
**WOOD BATHROOM  
CABINETS**



No. 102W



No. 103-W

Model No. 102-W, illustrated at left and Model No. 103-W, illustrated above, are attractive Miami Wood Cabinets. Equipment consists of two glass shelves; bar-type door stop; door strike and bullet door catch.

Miami Wood Bathroom Cabinets are smartly modern in every detail—trim, beautiful with mirrors framed in steel (by permission of WPB). Completely equipped, including famous Miami convenience features.

These attractive wood cabinets, now available in quantity, are doing a real wartime job . . . "filling the gap" left by discontinued production of Miami metal cabinets for the duration.

Miami Wood Cabinets are now widely used for essential replacements. They're giving first-rate service—and they're *saving war vital metals*.

For details, write Dept. AF.

#### MIAMI METAL CABINETS

—the standard of cabinet beauty, efficiency, and durability—will again be produced when the war is won. Meanwhile, some of these famous metal cabinets are still available from Distributors' stocks.

**MIAMI CABINET DIVISION** — The Philip Carey Mfg. Co.  
Dependable Products Since 1873  
MIDDLETOWN, OHIO

#### MONTH IN BUILDING

(Continued from page 62)

all the rest of its present force of 1,500,000 is labor compelled from occupied countries. And Germany is scraping the bottom of even that reluctant supply. Needed to transfer only the smaller and less important factories from the Ruhr to Upper Silesia are 40,000 workers; according to reports coming to the British Ministry of Information, Germany has as yet been able to find not more than 2,000. These went to work repairing bomb-damaged factories and houses; out of the window went plans to build new factories. Urgent factory repairs were slowed down; there was not enough labor to rebuild communication lines, put up temporary barracks for the homeless.

Ill-prepared for bomb damage, Germany entered the war with a housing shortage estimated by Berlin's Institute for Research on Trade Cycles at 4 million dwellings, had about 17½ million houses for a population of 67 million. Normal increase in population and absence of new building have stepped up the deficit by another million. Adding to the housing pinch are about 8 million foreign workers and prisoners of war who must have some kind of shelter. By June more than one million homes in 22 towns had been destroyed by Allied bombardment, Lord Selbourne, Britain's Minister of Economic Warfare, estimated. Scarcely an undamaged house is left in Cologne and the Ruhr district. Some 500,000 Volks-deutsche returning to Germany from the East are adding to the housing pinch.

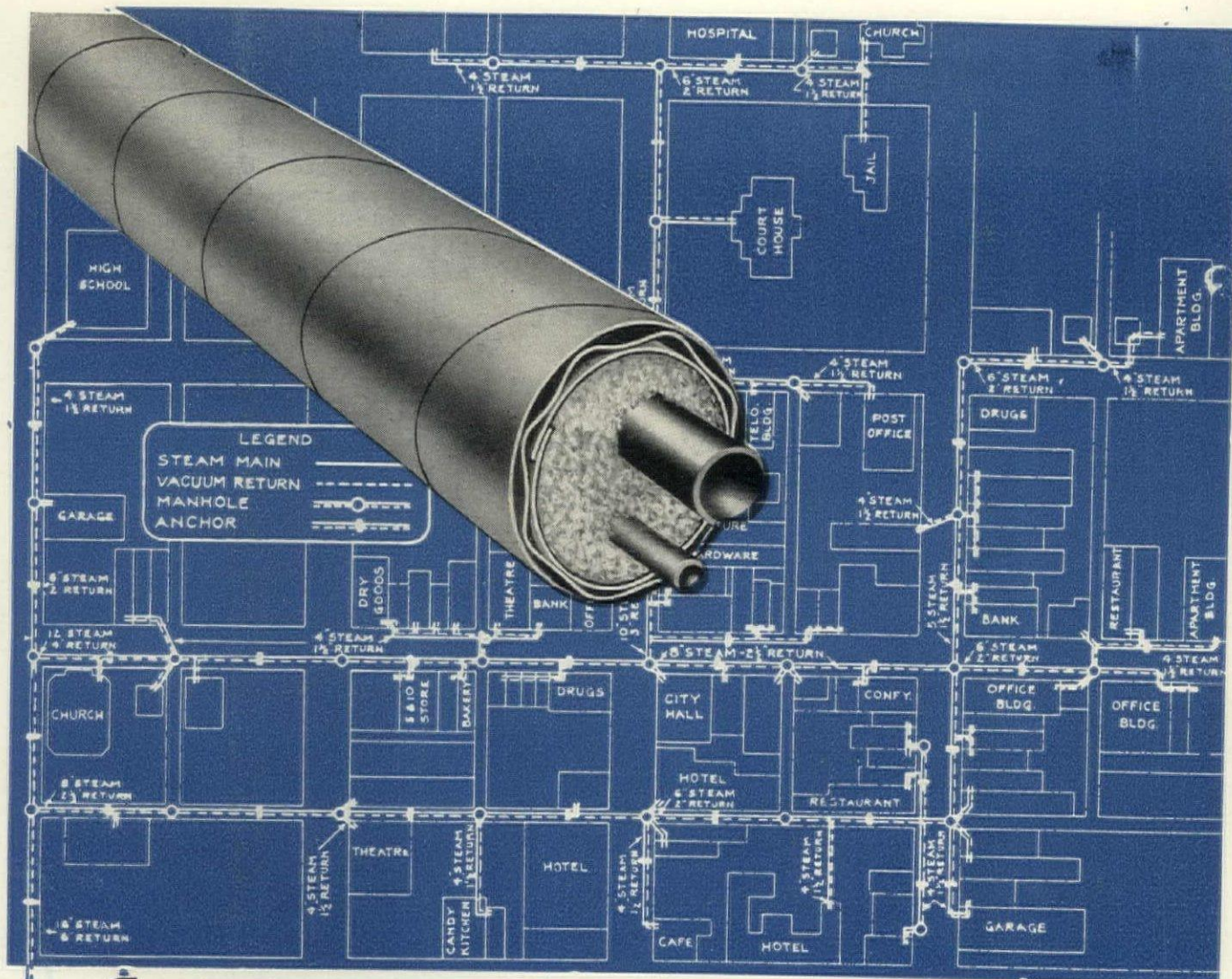
#### SHARP WORDS

For a long time the American Federation of Labor's housing committee has brooded about its exclusion from National Housing Agency councils. Headed by earnest, argumentative Boris Shiskin, the committee has kept a watchful eye on labor's interest in the developing war housing program, has made regular but undramatic pleas to the Lanham committee for more war housing money. Framing its annual report to the Federation membership, the committee felt sharp words were needed, used them to condemn both lack of labor representation and lack of community participation in NHA programming and policy making.

Charged the committee: "Provision of housing to war workers . . . has received the least attention in the mobilization of our country for war. . . The National Housing Agency has not enlisted wide public support of the war housing program which is the necessary

(Continued on page 146)





## *Ideal Plan For Post-War Community Heating*

### A CENTRAL HEATING PLANT + **Ric-wil** CONDUIT

Outstanding among the advantages of community planning are the benefits gained from central heating—making it possible to purchase *heat* as a commodity like gas, electricity or city water. Ric-wil Prefabricated

Insulated Pipe Conduit provides the most easily installed, dependable, economical and efficient system of heat distribution—proven by more than a thousand miles of all types now in service.

#### ADVANTAGES OF CENTRAL HEATING WITH **Ric-wil** PREFABRICATED CONDUIT

##### CONSTRUCTION ADVANTAGES:

- Conduit furnished complete with prefabricated field accessories.
- Prefabrication minimizes field work.
- Conduit is accommodated in narrow, shallow trench.
- Minimum excavation and backfill.
- Little or no interference with other construction.
- 21-ft. lengths for speedy installation.
- All-weld construction provides durable, watertight system.
- System is efficient, dependable, maintenance-free.

##### SERVICE ADVANTAGES:

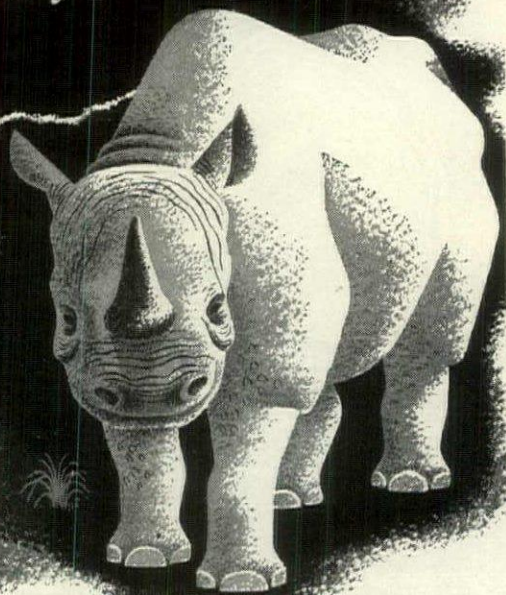
- Savings of 15% or better in overall fuel consumption.
- Elimination of furnace or boiler tending by consumer.
- Promotes cleanliness in buildings heated.
- Provides extra room in building basements.
- Decreases fire and explosion hazard.
- Reduces smoke and soot, provides cleaner, healthier community.
- Eliminates private coal delivery and ash removal.
- Gives uniform, clean heat quickly, whenever needed.

*Write for detailed information on Ric-wil Conduit for central heat distribution.*

**RIC-WIL** INSULATED PIPE CONDUIT SYSTEMS  
THE **RIC-WIL** COMPANY • CLEVELAND, OHIO  
AGENTS IN PRINCIPAL CITIES



*It's tough as a Rhino...  
and  
a century old this year!*



There is no better paint than white lead, and no better, tougher, more durable white lead than EAGLE... pure white lead ground in pure linseed oil, and a prime favorite since 1843!

In 1943, with a Global War whirling round our heads, and with many standards suffering, Eagle White Lead remains the pure product it always has been—highest quality!

Too, at a time when many shortages are being felt, there is still sufficient Eagle White Lead to go around. And it is the year's best buy in quality paint at that—only \$2.67 per gallon of finished paint, based on national average cost of Eagle White lead and linseed oil!

So we say, recommend that your clients use this paint that will laugh at weather—that will help keep their morale up with its truly beautiful finish—that will save them money on eventual repainting. Recommend pure Eagle White Lead!

**THE EAGLE-PICHER LEAD COMPANY, CINCINNATI, OHIO**

*Member of the Lead Industries Association*



**EAGLE  
WHITE LEAD**



## MONTH IN BUILDING

(Continued from page 144)

foundation for both manpower mobilization and sustained war production. War housing has been consistently kept out of the realm of public scrutiny and understanding. The NHA has sought to reduce war housing to a minor domestic issue. This in turn has emboldened private interests in their efforts to bend war housing policy to their advantage. It has also resulted in congressional indifference toward the plight of war workers forced into overcrowded quarters or compelled to live indefinitely in trailers, tents and roadside shacks."

For NHA's public housing arm the

*Acme Photo*



### SHISKIN charges mismanagement

committee had words much kinder, believed the Federal Public Housing Authority had "established an excellent operating record in the face of great difficulties." Warned the A. F. of L. spokesmen: "Gradual encroachment by the NHA on all policy making procedures has seriously threatened to reduce the FPHA to the role of a construction supervisor." Complaining that "publicly financed housing comprises only 22 per cent of the entire war housing program," the committee failed to point out that privately financed construction accounts for only 28 per cent, that the remaining 50 per cent has nothing to do with either new building or conversion, represents use of existing structures.

### BACKYARD PLANNING

Last month's burden of grandiose but unspecific talk of postwar planning was relieved by a good deal of evidence that the U. S. is settling solidly down to the notion that the place to begin planning is in the backyard of wherever you are. Cooperative-minded Minnesotans got credit for one of the first community-wide precision surveys. To

(Continued on page 148)



Only M. I. D. Graduates  
Need Apply



● M.I.D. — Material Inspection Department — is the first of many watchdogs that guard the quality of Sylvania Fluorescent Lamps. Before graduation from M.I.D. all materials must pass tough electrical, mechanical, chemical and visual tests.

Here an M.I.D. inspector is checking the quality of hair-fine tungsten, with a microscope, before it is released for fab-

rication into fluorescent cathodes.

The same painstaking care oversees each step of precision manufacture. When a finished Sylvania Fluorescent Lamp is ready for shipment to the war production front, it has to answer 49 quality questions. To pass this post-graduate course, it has to be the finest in fluorescent.

But the Sylvania standard of quality is



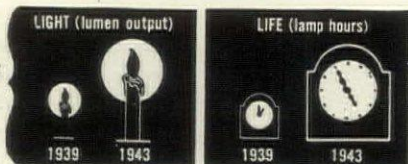
not frozen into production. There are constant specifications and processing changes. Many of them, like the "Mercury Bomb" method of ultra-precise measurement, conserve metals and man power, but all of them serve to step up fluorescent performance.

Research results are more lumens per watt, longer life, a finer coating and more uniform light color. These are the good reasons why Sylvania Fluorescent Lamps can be specified, with full confidence, for replacements and for new installations authorized to promote visual efficiency in war plants.

## FAR MORE LIGHT AND LIFE FOR YOUR MONEY

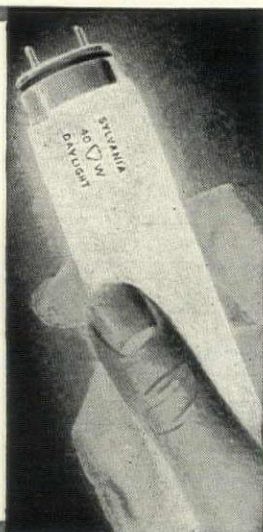
Compared with 1939, a dollar invested today in Sylvania Fluorescent Lamps buys more than four times the lumen output and approximately five times the lamp life.

SYLVANIA  
FLUORESCENT  
DOLLAR  
BUYS:



(Based on decreasing price and increasing efficiency and durability of Sylvania 40-Watt White Fluorescent Lamp)

*Even on existing circuits, a change-over to fluorescent—Sylvania Lamps, Fixtures and Accessories—will probably more than double the light you get for the same wattage.*



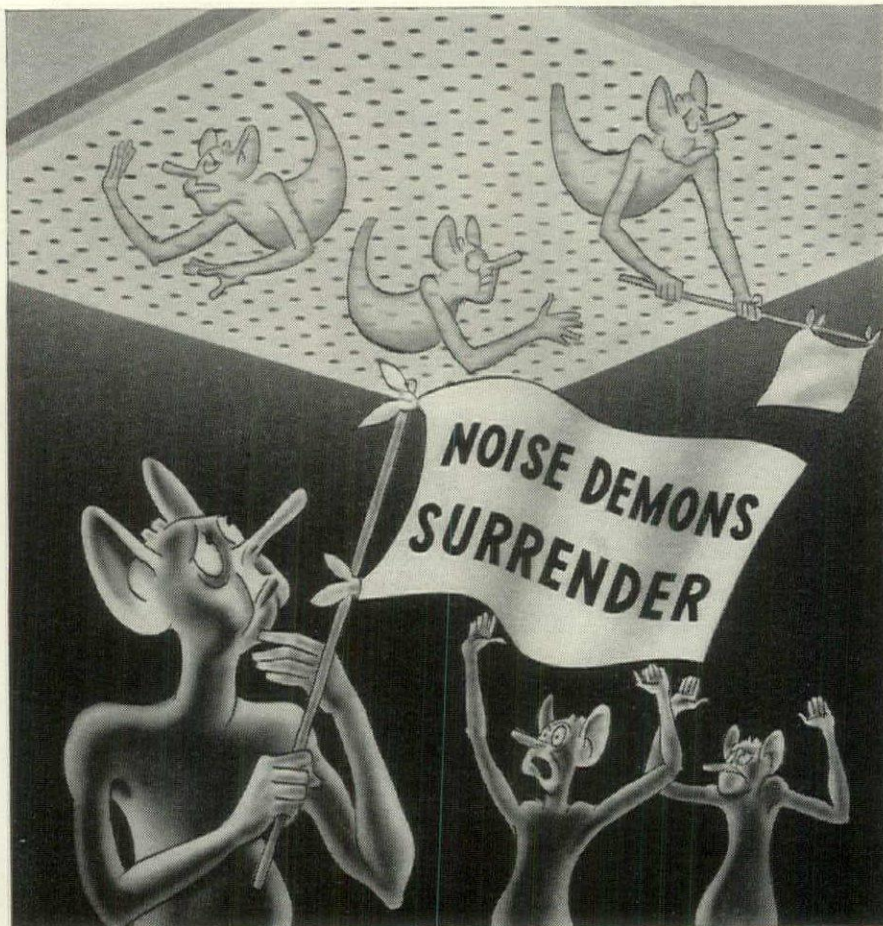
# SYLVANIA

## ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation  
Salem, Mass.

INCANDESCENT LAMPS, FLUORESCENT  
LAMPS, FIXTURES AND ACCESSORIES,  
RADIO TUBES, CATHODE RAY TUBES,  
ELECTRONIC DEVICES





## THOUSANDS DIE—TRAPPED IN CEILING OF ARMSTRONG'S CUSHIONTONE

**N**OISE DEMONS—thousands of them—are created by rattling dishes, clanging cash registers, loud conversations, and scraping furniture. But they die by the thousands wherever ceilings of Armstrong's Cushiontone have been installed. By restoring quiet, this new material makes a restaurant more inviting to patrons and helps to build business.

In every 12" x 12" unit of Cushiontone there are 484 deep holes which soak up as much as 75% of the sound waves reaching the ceiling. This high efficiency is permanent—it is not even affected by repainting with ordinary paint and painting methods.

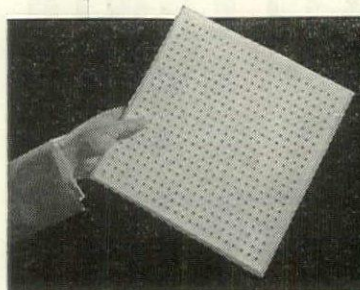
The cost of Armstrong's Cushiontone is surprisingly low. Its installation is quickly completed with little if any

interruption to business. And maintenance is simplicity itself.

Cushiontone has a light ivory-colored surface which not only blends harmoniously with any decorative plan, but provides unusually high light-reflection as well. Being an excellent insulating material, Cushiontone also helps to conserve fuel and reduce air-conditioning costs.


### JUST OFF THE PRESS

See our illustrated folder, "How to Exterminate Restaurant Noise Demons," for quick facts—and for pictures showing what Cushiontone has done for other restaurants. For your free copy, write to Armstrong Cork Company, Building Materials Division, 2310 Stevens St., Lancaster, Pa.



## Armstrong's Cushiontone

Made by the  
Armstrong's Linoleum



makers of  
and Asphalt Tile

## MONTH IN BUILDING

(Continued from page 146)

find a job for every man and a market for every product, the 12,000 citizens of the town of Albert Lea have been busy asking each other questions, tallying up the answers. Their postwar findings: Wanted by workers, 6,561 jobs. Wanted by local employers, 5,968 workers. Wanted by Albert Lea, 593 more jobs to make up the difference. Wanted by one-fifth of Albert Lea's families, 592 new homes, at an average price of \$3,800. If the U. S. as a whole were to keep step with this small town's anticipations, builders could look forward to a 7 million unit housing job.

Albert Lea, Tribune



TYPICAL small town is Albert Lea

An additional 1,254 of the town's home owners plan repairs amounting to \$852,996. There will also be a market for 2,296 new automobiles, 646 refrigerators, 758 sets of living room furniture, and 969 vacation trips. Farmers said they would buy 360 barns, 810 prefabricated smaller buildings, 780 tractors. Inspired by the foresighted Committee on Economic Policy of the national Chamber of Commerce, the experimental Albert Lea survey is expected to provide a pattern for similar studies by more than 300 postwar planning committees now organized by local chambers of commerce.

**Action Guidebook.** Bothered by the popular "misconception that postwar planning is something different, something vague, something exclusively for theorists and economists," the Department of Commerce called on local communities to organize a hometown postwar workpile, issued a natty put together guide booklet, "Community Action for Postwar Jobs and Profits." Urged were immediate local surveys to measure (1) postwar workpile—jobs to be offered, repairs, remodeling and expansion planned by industry already present in the community; (2) new industry that might be attracted; (3) likely size of postwar population; (4) financial reserves now being accumulated for postwar spending; (5) need for strengthening existing industry and

(Continued on page 150)



# DeWALT

## CUTTING MACHINES

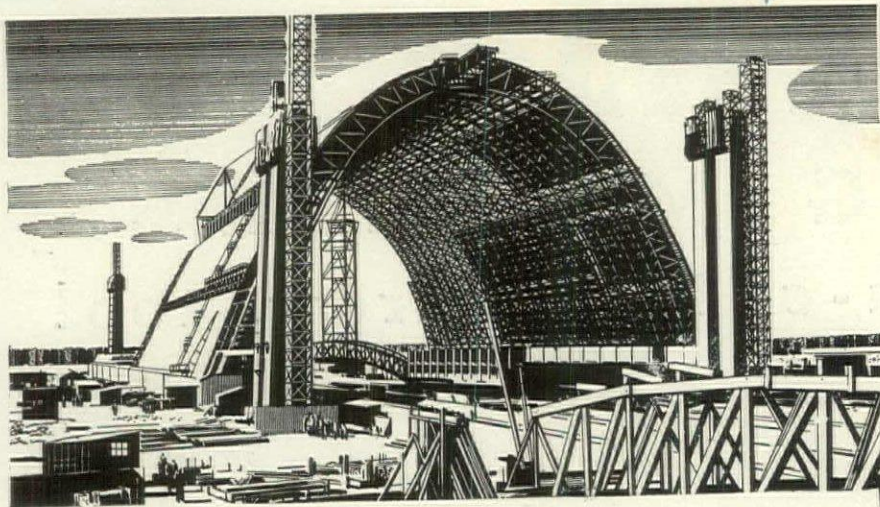
will *custom-cut* tomorrow, too!



Long before prefabrication methods obtained widespread attention, DeWalt Cutting Machines had been *custom-cutting* lumber with a precision and accuracy heretofore unknown. That is why experienced DeWalt engineers were called upon to help lay out production cutting lines for the urgent program of building training stations, cantonments, hospitals and other service buildings. In the vast building program that is to come in the peace-time tomorrow, DeWalt will still be on the job, *custom-cutting* with speed and precision, saving many man hours and increasing efficiency.

DeWALT PRODUCTS CORPORATION  
Lancaster, Pennsylvania





## Flame-Proofing Permits WOOD To Invade New Postwar Markets

**YOU'VE SEEN** this blimp hangar in the news: "Largest Wood Structure in the World." Many like it are scattered along our coast lines, housing the blimps that are making things hot for Axis submarines. But did you know that these wood structures are safeguarded against another enemy, Fire?

**MINALITH FIRE RETARDANT** protects that wood. It will not catch fire. It will not spread fire. Flame-proofed wood construction is built-in fire control. It helps preserve the usability of a building — a far more important factor than the building itself, especially in war-time. The protection is in the wood; it needs no renewal.

**PRESSURE IMPREGNATION** with Minalith\* fire retardant makes ordinary wood flame-proof. American Lumber & Treating Company employs the same scientific methods, the same accurately controlled equipment, as is used in making Wolmanized Lumber\* —the wood that's highly resistant to decay and termite attack.

**FOR POSTWAR USE**, we now offer you two types of treatment that enable you to retain all of the usual advantages of wood construction—lightness, ease of erection, strength, resilience. We add flame-proofing with Minalith fire retardant or resistance to decay and termites with Wolman Salts\* preservative, according to your needs. We'll gladly give you more details on either treatment. Write American Lumber & Treating Company, 1647 McCormick Building, Chicago 4, Illinois.

\*Registered Trade Marks

*"Alloyed"* FOR ENDURANCE  
**WOLMANIZED LUMBER**



## MONTH IN BUILDING

(Continued from page 148)

business. Appended are guide sheets to break down these general inquiries into specific questions. The Department said it based its guide on the experience of 487 communities, hoped that every city and town in the U. S. would soon be busy taking a look at its own future.

**Legislative Open Door.** Checking the record, the American Society of Planning Officials said that a growing number of state governments are opening the door for postwar planning as a hometown job. Scarcely one of the 44 state legislatures meeting this year went home without adopting some form of postwar planning legislation. Notable was the crop of enabling acts to provide cash for the action that local planning would inspire:

► Municipalities were given authority to build up cash reserve funds by Connecticut, Maine, Minnesota, New Hampshire, North Carolina, Pennsylvania, and Rhode Island.

► Maryland enabled municipalities to issue bonds to participate in any federal works programs.

► New York gave municipal corporations, school districts or district corporations the right to issue short-term "capital notes" for expenditures in postwar planning.

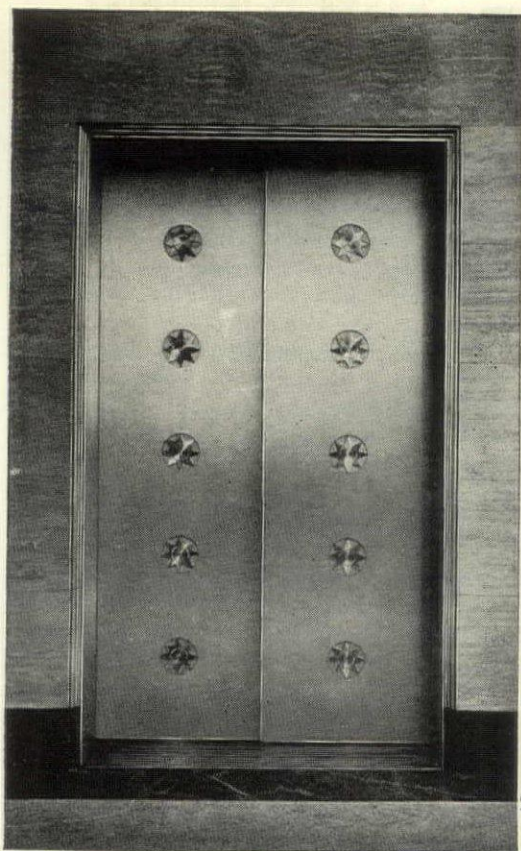
► North Dakota authorized cities to establish a war emergency fund by levying a tax not exceeding one mill on the dollar in 1943-44.

**Five more states—Indiana, Kansas, Maryland, Missouri and Wisconsin—** adopted legislation to speed rebuilding of blighted areas by privately financed redevelopment corporations operating under supervision of a public agency.

**Moses to Portland.** Facing prospective postwar unemployment of about 90,000 as well as great need for replanning docks, highways, bridges, public parks and playgrounds, Portland, Ore. invited New York's master builder, Robert Moses to lend a hand in solving its postwar problems. Five municipal agencies got together to put up the money to pay Moses and his personal staff \$14,000, New York engineering firms \$80,000, and New York attorneys \$6,000 for a workable program on which to base future public building. Moses was asked to plot trans-city arterials, additional transport and air terminals, port and dock facilities and to re-study land use. Portland, which knows how to build ships in 24 hours, asked how long it would take to blueprint a postwar future. Said Moses: "Sixty days."

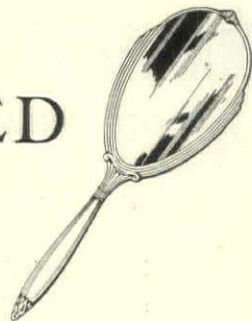
(Continued on page 152)





*on the importance  
of being*

**WELL GROOMED**



A well groomed building lobby, with its modern elevator entrances, often does a better selling job on a prospective tenant than an impressive building front. For one thing, the fronts of large metropolitan buildings, set in narrow canyon-like streets, are seldom seen or appreciated by those who pass them by. In the well groomed lobby, smart elevator entrances form the focal point of interest. Impressions... good selling impressions... are made right there. What has this to do with you? Simply this: Every

office building, where the lobby has not been modernized in the past fifteen years, needs your help. Otherwise, the post-war competition of more up-to-date structures is going to starve them to untimely deaths. How do we know about these opportunities? Primarily because a great many architects have already asked us for assistance on similar projects. When War's last act is over, they're going to be ready to start work. We would like to work with you in the same manner.

(Top Illustration). Dahlstrom First Floor Elevator Entrances  
in the United States Court House, Buffalo, N. Y.  
E. B. Green & Son and Bley & Lyman, Architects.

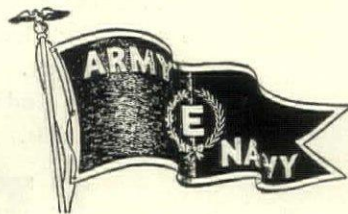
# DAHLSTROM

METALLIC DOOR COMPANY, JAMESTOWN, N. Y.

BRANCHES IN NEW YORK, CHICAGO, PHILADELPHIA, BOSTON AND SAN FRANCISCO

*Representatives in Principal Cities*

**BACK  
THE ATTACK**



*Buy More  
War Bonds!*



## NEWS NOTES

**No. 1 Move.** October 1 would be moving day for many; the nation wondered if it would be moving day for Harry Hopkins, too. Months ago the *Washington Post's* alert society editor broke the news that the President's house guest and his new wife were looking for a home of their own. Drew Pearson said baldly that Mrs. Roosevelt, weary of interference extending even to her household duties, would be glad to see her old friend go; glad, too, would be the White House staff to part with Mrs. Hopkins' many poodles, which have a room of their own in the executive mansion. Last month Georgetown looked out of its windows, waited for moving vans to pull up to the three-story, yellow-brick house which Harry Hopkins had found in the capitol's most crowded high-rent neighborhood.

**Manpower.** WMChairman Paul V. McNutt said he expects 800,000 construction workers to change over to armament production or community service jobs by July, 1944. Diminishing construction, McNutt believes, will release about one-third of the workers needed to fill the labor gap left when more than 2 million men are drafted next year.

**Profiteering.** Taking a stand against the notion that general contractors are getting rich by war profiteering, Southeastern Construction Co., Charlotte, N. C., bought an ad in leading newspapers in its wide operating area to make a report to war taxpayers. "Since you pay the bills, we of Southeastern think you should know how we handled your money," the ad said forthrightly, assured bill-payers that they are protected against war profiteering by competent government supervisors who check fixed fee contracts, by sharp competition on bid contracts, by the excess profits tax, contract renegotiation.

**Cash Sale.** Sold for \$5,251,000 cash was the Stevens hotel to high bidder A. S. Kirkeby, who already operates Chicago's fashionable old Blackstone and flossy Drake, New York's rejuvenated Gotham. Dropping only \$307,986 on the deal, the Army pointed out with some fairly involved mathematics that it would have lost twice as much by renting. Mr. Kirkeby got dressers, chairs, desks, lamps, full carpeting, mechanical and kitchen equipment, hoped soon to have the hotel in operation. Other Chicago hotel owners hinted gloomily that he and they might make more money if he kept the Stevens shut.



# MAINTAIN PEACETIME STANDARDS...

AVOID DELAYS IN WARTIME CONSTRUCTION

BY USING **TIME-PROVED LEAD!**

Present metal shortages need not interfere with efficient, economical and "on time" installation of water services, roofing and flashing, plumbing, and chemical equipment. For all such essential work, LEAD is easily obtainable today. For prompt delivery you have only to place your order with the dealer or manufacturer closest at hand. No red tape!

LEAD, outstanding in its ability to resist corrosion and defy time, assures immediate satisfaction, lasting performance and long-run economy. Always the preferred metal where flexibility is desired, LEAD pipe installations eliminate the expense of special fittings and joints.

Classed by the WPB as the least critical of common metals, LEAD is the one durable common metal readily available today. In selecting LEAD you not only avoid unnecessary and often costly delay — and maintain pre-war construction standards — but also release more critical metals.

We will be glad to add your name to the mailing list if you do not receive our free magazine LEAD. It will keep you informed of latest developments in LEAD and Government orders affecting its use.

## LEAD IS NOT RESTRICTED FOR THESE APPLICATIONS!

- Soil, waste, vent, water service and chemical pipes.
- Traps, bends, floor flanges and other fittings.
- Roofing, flashing, gravel stops, waterproofing.
- Came or glazier's lead.
- Chemical equipment.
- Calking lead and lead wool.
- Other essential uses.

# LEAD

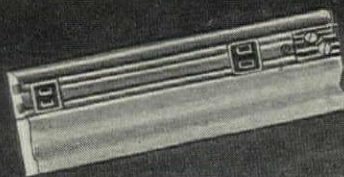
## INDUSTRIES ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

YOU'RE MONEY AHEAD WHEN YOU SPECIFY LEAD



**SURFACE WIRING?  
OR  
CONCEALED WIRING?**



**for those buildings you're starting to plan**

*Before you decide, better check with...*

**JOHN WATTS**  
Electrical Contractor

**New developments in surface wiring** may mean a big gain in economy and convenience for those new buildings you contemplate. Then again, conditions may call for a conduit job when all the facts are in.

**Local building regulations,** climatic conditions, buyer preferences in the area — a multitude of factors affect electrical decisions like this, whether they involve wiring practices, installation methods or the choice of equipment. It takes a specialist to know them all.

**The best way to get the answer** is by talk-

ing it over with "John Watts," a well qualified electrical contractor familiar with all the local conditions, regulations, likes and dislikes. The chances are his practical experience will point the way to the most acceptable result, and to faster completion of the job.

• • •

**Today, as never before,** early contact with a competent contractor can help you steer clear of "extras" and delays. Choose your electrical contractor carefully, of course, but once you do, give him a real chance to put his expert knowledge at your service right from the start.

**Give Your Electrical Work to John Watts,** a qualified electrical contractor heading a well-established firm with the trained organization, tools and know-how to give you specialized assistance on wiring, lighting, signaling, power supply, electronics. From offices and warehouses in over 80 cities, GRAYBAR serves a nation of "John Watts," helping them to help you by supplying the newest and best in electrical materials.

**GraybaR**

**IN OVER 80 PRINCIPAL CITIES**

**Executive Offices: GRAYBAR BUILDING, NEW YORK 17, N. Y.**







## An Army of 80,000 asked

REVERE's current national advertising campaign features the ideas of some forward-looking American architects and designers on post-war housing, city and community planning. Both the public and the profession are highly interested. Witness over 80,000 individual requests or a total of nearly 140,000 requests for the various descriptive booklets offered in the advertisements. Requests are coming every day in an increasing flood.

Revere sponsors no single idea in the series. It has no axe to grind. It believes in giving the architect a free rein, as exemplified in Mr. Breines' house with its "roof of water" and novel structural scheme.

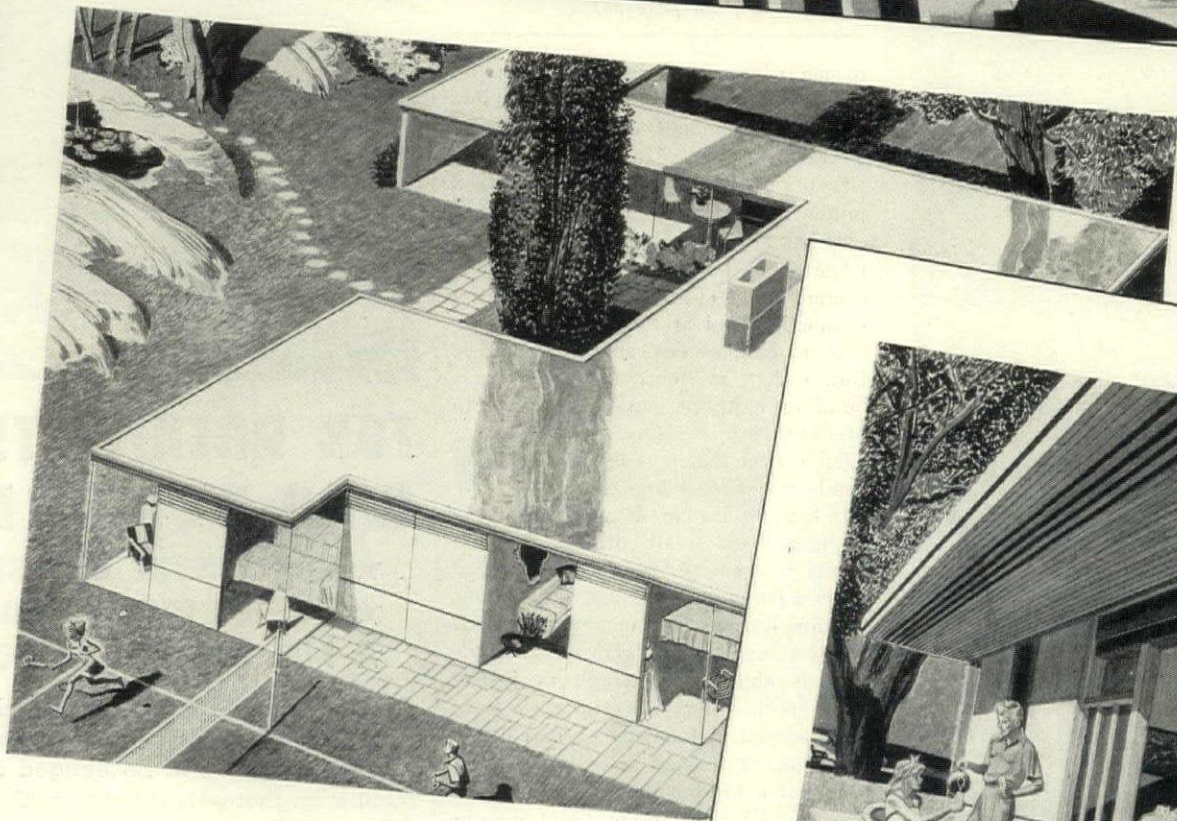
Revere's production is today entirely dedicated to war effort, but it believes that its revelation of some of the after-Victory building trends inevitably benefits the whole industry: architect, builder, contractor, realtor, manufacturer and financier. Revere also believes that the use of copper and its versatile alloys makes any building more durable, better to look at, better to live in, own, rent or sell.

Already its technical services are looking to the future—planning to produce improved materials for roofing, flashing, pipe, tube and architectural shapes in copper and copper-base alloys.

Revere meanwhile gladly continues to share, without obligation, its fund of technical knowledge. Those with particular problems, involving the more effective use of copper and its alloys, are invited to ask our cooperation.

Revere  
COPPER  
PRODUCTS





## THE AIRPLANE HELPS BUILD —Copper Protects and Makes

WHEN you buy your new home in the world of tomorrow, how much will it cost you per pound? That may seem a queer question. But it is a fact that weight is one of the most expensive things you pay for, whether it be a car, a range or a house.

It is to eliminate the cost factor of weight that I have applied to home building the principle of "stress-tension" as used in modern airplane construction; namely, that light-weight plywood or composition board can provide the strength of steel while it does away with much of its weight!

That is to say, a well-braced house built of plywood panels would be as strong as any you could erect. With feet by 20, you could build any type house you wished. Against these panels, either present-day or new, completely-finished-at-factory units for food preparation, sanitation, etc., could be arranged. And spaces for living, sleeping, playing could be thus created to suit every desire.

To this light-weight construction, I have added a feature incorporating the well-known fact that if you reflect sunshine away instead of absorbing it, you can keep cool. So my roof is actually a "pan" containing water. This "water roof" acts as a mirror which reflects heat and keeps the house cool.

This roof is broadly edged with copper, that price-less metal which is at once so beautiful and so useful. The roof sections permit the free circulation of air



under the roof and are braced to keep out insects. (The features of this coping are described on the opposite page).

I have already built incorporating these ideas. Victory is won, these principles can be adapted to endles varieties of homes and interiors.

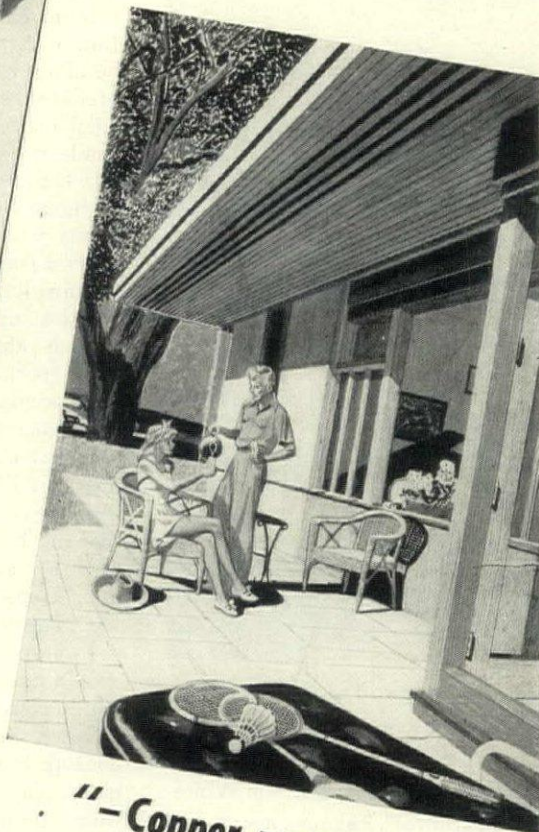
For instance, a newly-married couple could with enough roof and floor panels to accommodate the kitchen, dining, living, bedroom and bathroom. With factory-assembled prefabricated available, the cost of such a dwelling would be \$2,800. The larger house, illustrated above, probably retail at \$5,500. f.o.b. factory. (\$ and labor cost extra).

There can be no single solution of the house, but here is one which is rather unusual and economical to build. I urge you to Revere for free descriptive booklet giving pictures of similar existent houses and full details.

Revere does not build houses or expect to in the near future. It entertains any pre-conceived notion of an "ideal" house. It believes in giving the free rein in expressing their various

\* \* \*

SIMO



## "—Copper protects and makes it beautiful"

One of the unusual features of Mr. Breines' house described on the opposite page is the use of copper in the entirely visible flashing or coping which forms the edging of the roof. The coping is carried up and over the parapet and then down the facing boards of cypress or redwood. In the illustration above, this feature is clearly shown. The copper coping is highly protective against weather; it achieves also a striking decorative effect, especially as the copper takes on its characteristic patina. The contrast with the natural wood of the walls is most harmonious.

In this house, copper and its alloys have also other uses: flashing around sills and door saddles; the hot and cold water system; window screens; bronze-screened grilles in the roof ventilation sections.

### Revere Products Are Standard

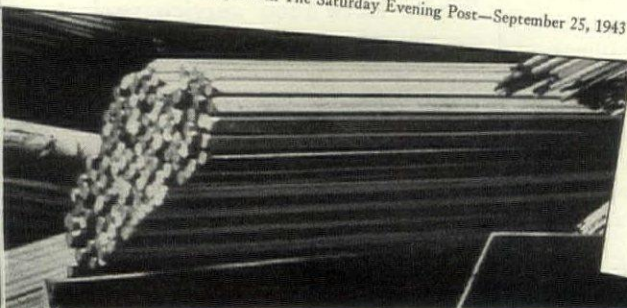
Revere copper and copper base alloys are standard for both new building and remodeling. They're specified for roofing, flashing, gutters, downspouts, lines; heating and air conditioning lines; storage tanks; thresholds, window frames and the like. Revere copper, brass or bronze accessories add beauty inside and outside the house.

Copper gives longer life to any building anywhere, any time, because it protects, preserves, perpetuates.

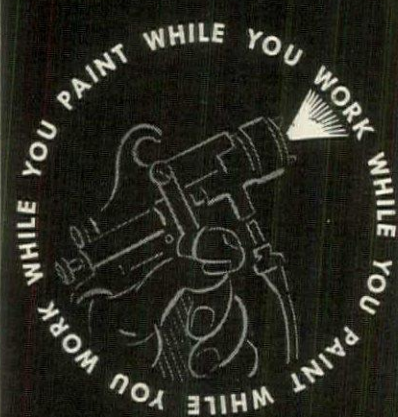
After Victory, Revere products will again be available for building. But Revere urges all those interested to begin planning now for post-war days. If its Technical Staff can help you in your building problems, please advise our Executive Offices. No obligation, of course.

**REVERE**  
COPPER AND BRASS INCORPORATED  
Founded by Paul Revere in 1801  
Executive Offices: 230 Park Ave., New York 17, N.Y.

This advertisement appears in The Saturday Evening Post—September 25, 1943







with **ARCO RAYS**  
The MILL WHITE with  
"fog control"

**P**AINTING a plant no longer means large areas shut down and price-less production time lost—not if you paint with Arco Rays, the Mill White with "fog control". Because Arco Rays atomizes at extremely low pressure, it sprays with a minimum of fog and splatter. Only machines immediately adjacent to the painting need be covered up and a dry cloth is all the cleanup that is required.

ARCO RAYS is one of Arco's long list of maintenance specialties—mill whites, floor treatments, metal protectives, wall paints, concrete and masonry coatings—products that have played an important conservation role in three generations of American industry. Write for details.

**THE ARCO COMPANY**  
CLEVELAND, OHIO • LOS ANGELES, CALIF.



**ARCO**  
Paints for Industry

## LETTERS

(Continued from page 36)

reason why private industry, properly organized, cannot do the housing job. A healthy national economy such as we hope for and plan for in the post-war period has no need of subsidized public housing.

It has been widely demonstrated that large scale building of well planned communities effects very substantial economies, and at the same time provides much more desirable communities. But, with a few exceptions, the home building industry is not organized to produce such communities. The principal reason that it is not so organized has been the mortgage concept. Nearly all housing is predicated on large mortgages and small equities. A small equity can easily be wiped out by an adverse condition. The average investor is unwilling to put money into such equities unless the return is quick enough and large enough to justify such speculation. Thus here we have the speculative methods of real estate development carried over into an investment field; but the investment field does not offer the large profit margin that the speculative field does. Well-planned housing has been shown to be a proper and secure investment rather than a speculative commodity whether the housing is rented or sold.

I propose that private enterprise should *now* organize a number of large housing investment corporations founded upon the hypothesis that residential housing is a proper and secure investment. The corporations would own the whole property rather than an equity in it. There would be no mortgagee waiting to take over the property and cause the corporation to forfeit its entire investment. Properties would be developed with an eye to long time return rather than immediate saleability. In addition to the security offered by careful planning and prudent development, the properties could be insured with FHA against major capital losses. The corporation would diversify the locale of their properties to insure greatest safety. Thus the economic adversity of one community or industry could not cripple a corporation.

The time to organize such corporations is now. There are millions of dollars of surplus money that could be invested in such corporations now.

Here is an opportunity for the organizer, the broker, the investor, the architect, the real estate man, and the builder to prove that private enterprise is still vital.

FRANK M. ROBERTS

Houston Ready-Cut House Co.  
Houston, Texas



## FOR ARCHITECTS WHO DEMAND

- ★ FUNCTIONAL DESIGN
- ★ RUGGED CONSTRUCTION
- ★ PLEASING APPEARANCE

Architects of projects that include provision for the preparation and serving of food will be obliged to familiarize themselves with epochal advances that have been made in this field since the outbreak of the war.

From the military point of view the most important improvements were in capacity, economy of floor space, simplicity and safety of operation and ruggedness of construction.

## JOHN VAN RANGE POST-WAR FOOD SERVICE EQUIPMENT

Incorporates all these important features together with a refinement of lines and proportions never before attained. The use of better materials contributes materially both to durability and to eye appeal. The superiority of the improved Van Kitchen equipment has been proved by the most exacting, heavy-duty service in all branches of the armed forces and in war plants everywhere.

If you have food service projects on your boards or in prospect we shall be pleased to help you with the layouts and detailing. Send us your inquiries.

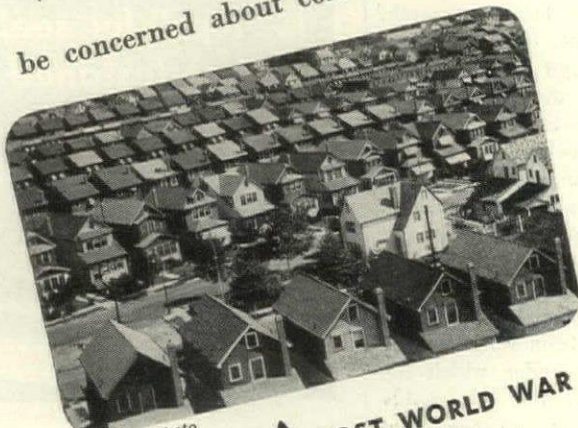
**The John Van Range Co.**  
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Branches in Principal Cities  
328 EGGLESTON AVE., CINCINNATI, O.



# WHY

should a home prefabricator  
be concerned about communities such as these?



Galloway photo

↑ POST WORLD WAR I

↓ POST WORLD WAR II



Costain photo

Courtesy David Swope

# BECAUSE

*First*, a quality house incorporating individual design, engineering and high-grade materials deserves the proper surroundings . . . *Second*, the Postwar Home Buyer will demand greater quality, livability and economy than heretofore . . . And *finally* we believe it is our responsibility to work for well-planned neighborhoods as well as quality houses.

## ALLIED HOUSING ASSOCIATES, INCORPORATED

PLANTS: Bristol, Pa.; Baltimore, Md.

Langhorn, Pennsylvania





## Greater Comfort and Convenience for **POSTWAR HOMES**

Postwar homes, large or small, are entitled to the comforts and conveniences that only Donley Devices can give. The postwar home can easily afford the advantages of such Donley Devices as package receivers, incinerators, coal chutes, attic ventilators, fireplace equipment and Heat-Saver Fireplaces.

The Heat-Saver Fireplace in particular should be in every postwar home to provide not only the heat from a conventional fireplace but also, in addition, a large volume of circulated heat from the warm air chamber around and above the firebox—sufficient heat to meet a fuel emergency or for the cool days in spring and fall when the heating system is not in use.

Plan now for Donley Comfort and Convenience Devices in your postwar homes. Send for a copy of the Donley catalog describing these devices. If you are interested in obtaining them now, write and we will tell you which ones are available.

**THE  
DONLEY  
BROTHERS COMPANY**  
13945 Miles Ave., Cleveland 5, Ohio

## LAND PLANNING

(Continued from page 68)

mind re-examination of the purpose and province of planning and of the other governmental activity needed to effectuate it. The purpose obviously is to assist us, that is, the public as a whole, to get the kinds of cities and neighborhoods we want. On the part of official planning this means research, education, experiment. It means also moving more slowly and accepting more compromises than the perfectionist would like. It means at the same time leadership and sensitiveness to the popular will, a willingness to use the arts of persuasion and salesmanship, and a flexibility of program and point of view that will relieve planning of its fearful dogmatism.

The province of official planning is that of creating the framework and establishing the rules under which the pattern is to be developed, presumably for the most part by private investment and enterprise. Regulation we must have certainly. But it should be regulation with a sense of direction, and it should be both devised and administered in light of the difficulties to be encountered in getting what we want. Regulation needs to be paralleled by inducement, and the emphasis needs to be on the removal of old obstacles rather than the creation of new ones.

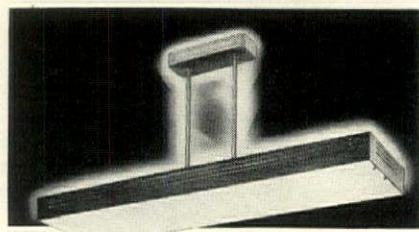
Within the framework so established, enterprise should be allowed all freedom consistent with the broad purpose of the plan. Specifically, the layout of minor streets, the disposition of buildings, the selection of building plans and types, structural methods and esthetic expression are all features to which opportunity should be given for the application of private skill and ingenuity. Enterprise must also be given latitude in sales, rental, and management and other matters affecting the integrity of the investment.

A safe principle in public-private relationships is that the greater the restrictions on the one hand the greater must be the inducements on the other. Controls are always restraints. They can prevent abuse, but they cannot of themselves induce action. They must be balanced, and overbalanced, with benefits, and the benefits must be made obvious.

Planning, both official and private, needs emphasis on the positive. It needs a clear view of objectives and a working combination of the public and private energies required to reach these objectives. It needs a pact of mutual assistance between the general and the individual interest which will eliminate suspicion and let, and help, each do the part of the job to which it is suited.

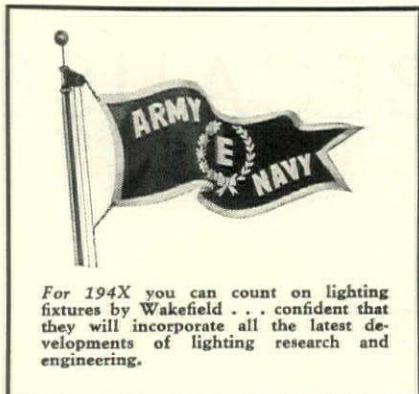
**FLUORESCENT  
FOR WAR PLANT OFFICE  
OR DRAFTING ROOM?**

**The ADMIRAL  
by WAKEFIELD**  
is "tops" for seeing  
and redesigned to  
WPB limits



Redesigned to meet the metal weight-limitations of WPB, the ADMIRAL is a natural for fluorescent lighting in offices or drafting rooms essential to the war effort. Sales require at least an A-1-j priority.

Made largely of wood, the ADMIRAL conserves war materials. At the same time, it provides efficient, high intensity, diffused light to help handle wartime paper work faster; puts 90% of the light down on desk-top or boards, and allows the rest to go upward to avoid ceiling contrasts. Especially effective for work that involves critical seeing. Walnut finish. Comes in 2, 3 and 4-lamp units. For details, see our catalog in Sweet's.



For 194X you can count on lighting fixtures by Wakefield . . . confident that they will incorporate all the latest developments of lighting research and engineering.

**THE WAKEFIELD** BRASS  
F. W. CO.  
VERMILION, OHIO





**"if they can do it, so can we"**

*Do it with  
"imagination"  
wood and glue!*

Write for this free book! Outlines new wood and glue developments. Lists Technical Service Bulletins available to designers and engineers. Stimulating. Worth reading.



Many industries are doing "impossible" things with wood. Wood, they are finding, is an amazing material, especially when a little imagination goes with it.

Increasingly, architects, engineers and designers are turning to wood—as it continues to reveal new physical properties—as new plastic resin glues change wood into one of America's most versatile materials.

New, better glues enable wood to do things it never could do before—and to do them *at lower cost*, more efficiently than other materials accepted for years as "the only way."

Regardless of what you build or plan to build, the possible use of wood and modern glue is good, practical thinking—may prove basically applicable to your plans. Look into these new materials now!

## **GLUES FOR INDUSTRY**

UREA-RESIN (Cascamite) • PHENOL-RESIN (Cascophen) • CASEIN (Casco)

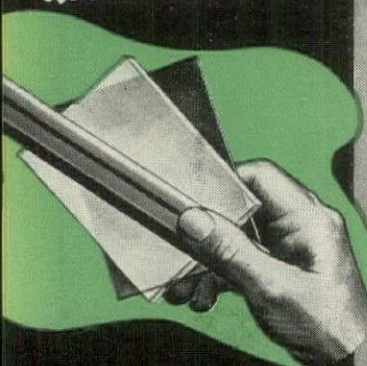
*Casein Company of America*

Division of The Borden Company • 350 Madison Ave., New York 17, N. Y.

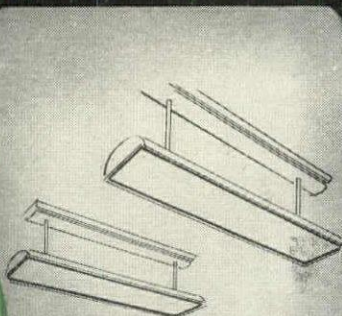


# What's Ahead

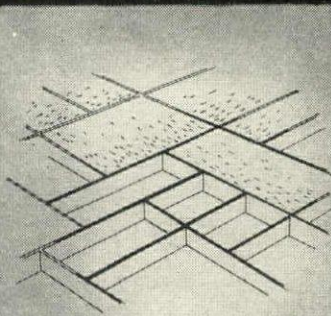
## "VINYLTE" RIGID SHEETS



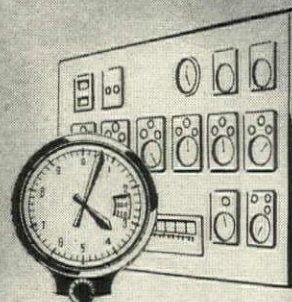
...TODAY, WARTIME SERVICE FOR MANY VITAL NEEDS



Non-Shattering, Lightweight  
Lighting Fixtures



Terrazzo Floor Tile  
Separators

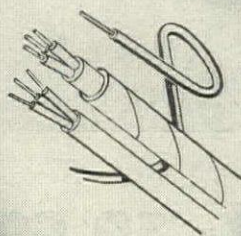


Metal-Saving, Long-lasting  
Dials and Instrument Panels

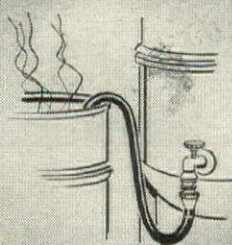
## "VINYLTE" ELASTIC MOLDING AND EXTRUSION COMPOUNDS



...TODAY, A BETTER SOLUTION TO RUBBER SHORTAGE PROBLEMS



Flame-Resistant, Non-Oxidizing  
Primary Wire Insulation



Chemical-Resistant Tubing  
For Processing Plants



Long-Life Extension Cords  
and Plugs

## Unique Properties of "Vinylite" Plastics

offer wide possibilities in postwar architectural and engineering plans

Get to know all of the various VINYLTE Plastics and you'll agree that the extent to which these versatile materials can help build, protect, and decorate better homes and industrial structures will be determined by the ingenuity of the architect or engineer himself. Consider two of the several types of VINYLTE Products—Rigid Plastics and Elastic Molding and Extrusion Compounds. The various ways their unique properties are meeting wartime requirements are only an indication of their broad usefulness when peace returns.

Today, VINYLTE translucent Rigid Sheets provide lightweight, non-shattering lighting fixtures for war plants. Similar advantages may be obtained later for illuminated columns in public buildings, and for indirect lighting panels in homes. Non-flammable, dimensionally stable, and water-proof, these same plastics in extruded form will be used as colorful trim for many architectural purposes.

Wartime use of VINYLTE Elastic Plastics for non-flammable electrical insulation on Navy ships, forecasts improved household wiring for tomorrow. Chemical-resistant tubing, scuffproof floor matting, resilient, colorful hardware, all can be made of these versatile rubber-like plastics in extruded, molded or sheeted forms.

Investigate VINYLTE Plastics before deciding upon the structural and decorative materials for your postwar specifications. A quick picture of all VINYLTE Plastics and their unique properties can be obtained in Booklet 14VE, "Vinylite Resins—Their Forms, Properties and Uses."

Plastics Division

CARBIDE AND CARBON CHEMICALS CORPORATION  
Unit of Union Carbide and Carbon Corporation

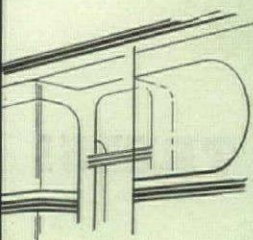


30 EAST 42ND STREET, NEW YORK 17, N. Y.

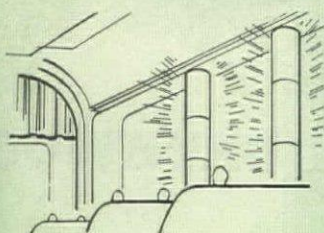


# in "Vinylite" Plastics?

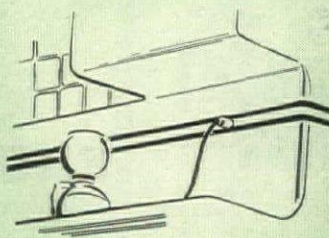
...TOMORROW, GREATER DURABILITY AND ATTRACTIVENESS



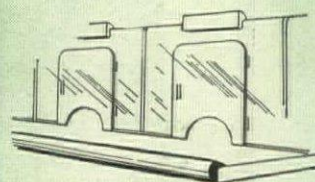
Decorative Architectural Trim



Colorful, Translucent Light Panels

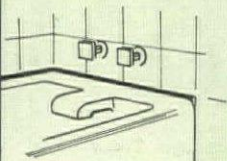


Continuous Strip Electrical Outlet

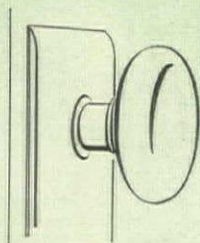


Colorful Counter Edgings

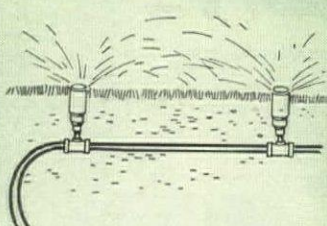
...TOMORROW, UNIQUE PRODUCTS NEVER POSSIBLE BEFORE



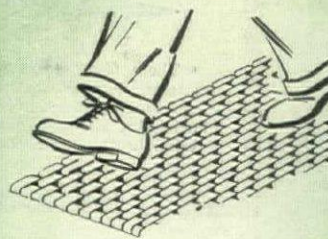
Alkali-proof, Bathtub Sealing Strips



Colorful, Resilient Handles and Hardware



Easy-To-Install Underground Sprinkler Tubing



Durable Floor Matting In Any Color

## PROPERTIES OF "VINYLITE" ELASTIC PLASTICS

These are a relatively new group of VINYLITE Plastics with rubber-like or elastomeric properties. They are produced in a variety of forms, ranging from soft to semi-rigid. They possess great toughness, and excellent resistance to continued flexing, and to severe wear and abrasion. Tensile strength is higher than that of most rubber compounds. Their electrical insulating properties are outstanding. They are not subject to oxidation. By correct choice of plasticizer, they can be made non-flammable, and highly resistant to water, oils, and corrosive chemicals. They are available in a wide range of colors, either translucent or opaque, or can be supplied in their natural, colorless, transparent state. Since all VINYLITE Elastic Plastics are thermoplastic, no curing or vulcanizing is required. They are more affected by temperature changes than is rubber, but their operating range is wide, some types remaining flexible at -50 deg. F., yet tack-free at 200 deg. F. VINYLITE Elastic Plastics are supplied as sheeting and as compounds for calendaring onto cloth, and for molding and extrusion.

## PROPERTIES OF "VINYLITE" RIGID PLASTICS

—Produced from unplasticized vinyl resins, VINYLITE Rigid Plastics possess a combination of properties found in no other thermoplastic material. Because of their extremely low water absorption, these plastics remain dimensionally stable under widely varying atmospheric condi-

tions. They have exceptional resistance to alcohols, oils, and corrosive chemicals. They have high impact strength and tensile strength. They are odorless, tasteless, and non-toxic. They do not support combustion. They are available in a wide range of colors, translucent or opaque, and also in colorless, transparent forms. They are supplied as rigid sheets or as molding and extrusion compounds. Rigid sheets can be fabricated by forming, drawing, blowing, spinning or swaging, and can be punched, sheared, sawed, and machined on standard metalworking tools. Molding compounds are suitable for both compression and injection molding. Extrusion compounds give highly finished continuous rigid rods, tubes, and shapes directly from the die.

## PROPERTIES OF "VINYLITE" RESINS FOR SURFACE COATINGS

—Correctly formulated and applied, VINYLITE Resins yield finishes of unusual toughness, gloss, adhesion, and chemical resistance. They can be applied by spraying, knife-coating, or dipping to a wide variety of surfaces, such as metal, cloth, paper, and concrete. Prepared by dissolving resins in organic solvents, these finishes can be modified with a wide variety of pigments, dyes, and plasticizers. These resins are generally not employed with other film-forming bases, therefore, coatings formulated from them exhibit the desirable features of VINYLITE Resins alone. Drying is solely by evaporation of solvent, and finishes can be either air-drying or baking types.

## PROPERTIES OF "VINYLITE" RESINS FOR ADHESIVES

—Unusual toughness, resiliency, and impact resistance are characteristic of adhesives made of VINYLITE Resins. These resin adhesives are widely used as bonding agents for such materials as cellophane, cloth, paper, cardboard, porcelain, metal, mica, stone, leather, wood, and plastic sheets and film. They are available as powders for the compounding of adhesives, or as solutions sold under the trade-mark "VINYLSEAL." The latter are especially recommended for bonding impervious materials, such as metals, and urea and phenolic plastics. Their bonding strength is comparable to that obtained with soft solder. By the addition of plasticizers, adhesives based on VINYLITE Resins can give almost any degree of flexibility desired.

# Vinylite\*

TRADE MARK

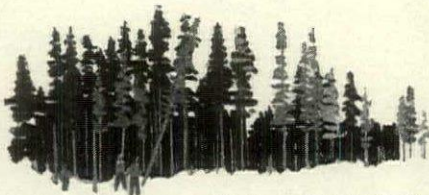
ELASTIC PLASTICS • RIGID PLASTICS

RESINS FOR ADHESIVES

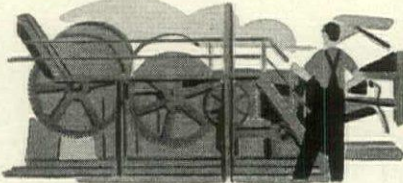
RESINS FOR SURFACE COATINGS

\*The word "Vinylite" is a registered trade-mark of Carbide and Carbon Chemicals Corporation

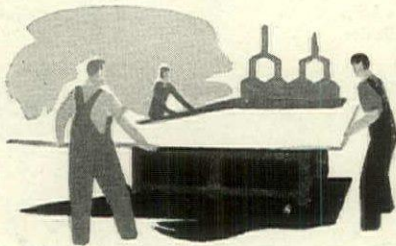




• Today, in the vast Northwoods, millions of trees are maturing—trees that were planted as a “crop”, in forest conservation, to assure always a supply of “tall timber” for the American people.



• One of the products made from wood and having many uses is INSULITE. The logs are brought to the Insulite Mills and, in special machines, are ground down until the wood fibres, the “sinews of the wood”, remain.



• These fibres are then processed into large, strong, durable boards—INSULITE. Insulite, when used as sheathing in home construction, has a bracing strength four times that of ordinary wood sheathing, horizontally applied.

## INSULITE

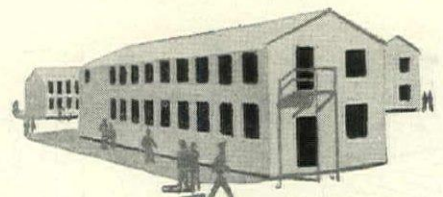
Division of Minnesota &  
Ontario Paper Company,  
Minneapolis, Minn.



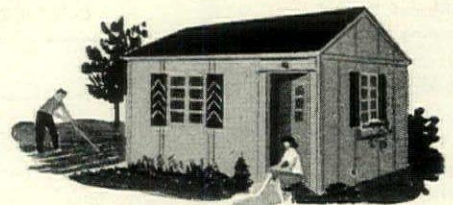
**INSULITE**  
STRUCTURAL INSULATION

LOOK FOR INSULITE  
IN THE RED PACKAGE

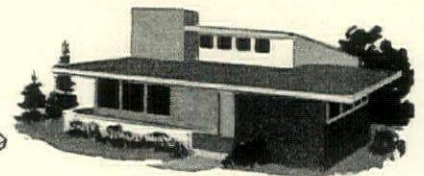
# FROM NORTHWOODS TREES!



• Insulite has many building advantages. Today speed in construction is important. War buildings must be erected, almost overnight. The large Insulite boards are quickly applied, rapidly nailed into place, thus saving valuable time.



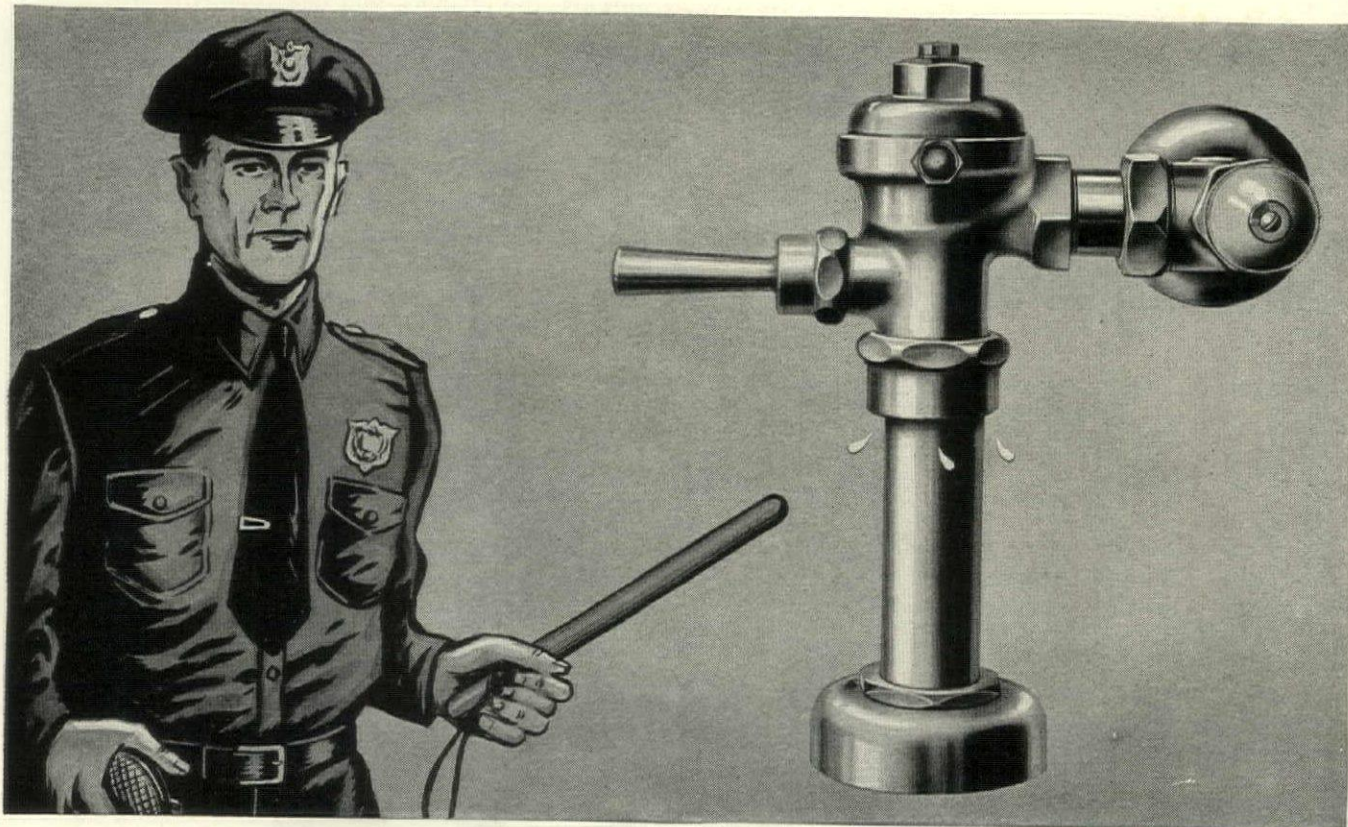
• The concentration of war workers made serious housing problems in many places. In the quick construction of livable quarters for these workers, Insulite is proving of great aid. By providing effective insulation, Insulite reduces fuel consumption in winter, makes cooler homes in summer.



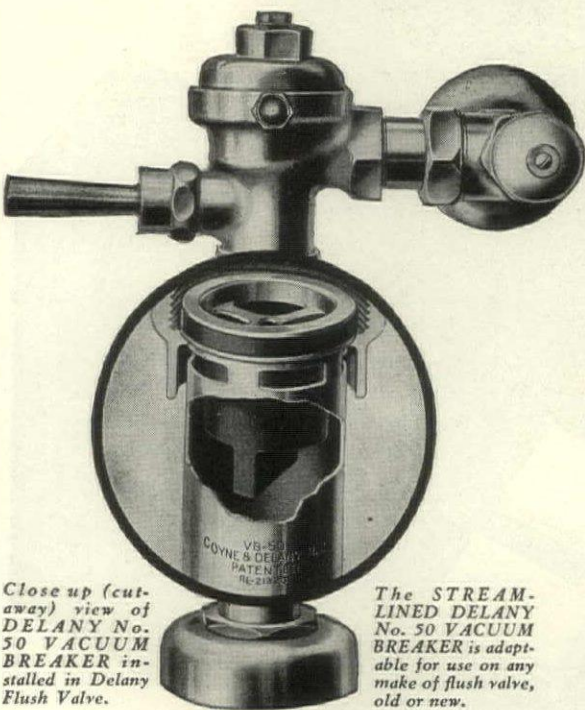
• When Victory is ours, America will face a serious housing shortage. In building the home of the future, Insulite will be an important help. Homes constructed with Insulite approved Wall of Protection have walls that provide a double barrier of insulation against extremes of temperature.

THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD





## SELF POLICING against back-syphonage!



Close up (cut-away) view of DELANY No. 50 VACUUM BREAKER installed in Delany Flush Valve.

The STREAM-LINED DELANY No. 50 VACUUM BREAKER is adaptable for use on any make of flush valve, old or new.

The DELANY No. 50 VACUUM BREAKER in design and functional operation eliminates any necessity for inspection to ascertain if protection against back-syphonage is constantly provided. It's self policing.

Should a DELANY No. 50 VACUUM BREAKER become defective through fair wear and tear, sabotage, or faulty installation, such a condition will be made known to the user by the spilling of a small amount of water through vents of this vacuum breaker each time the valve is operated. This obviates the "usual" daily inspection.

And moreover, should any fault or stoppage occur and repair be delayed, the unit is fully capable of preventing back-syphonage should a vacuum develop while in a defective condition. This is the essence of full and constant protection—and why we call the No. 50 "Self Policing."

We know of no other similar device that has this most important feature.

Some Government projects have from 5,000 to 6,000 flush valves equipped with vacuum breakers. Anyone can appreciate that no maintenance force should be expected to inspect each toilet-unit each day—it is physically impossible. Therefore the preference for the exclusive "Self Policing" feature of the DELANY No. 50 VACUUM BREAKER cannot be denied.

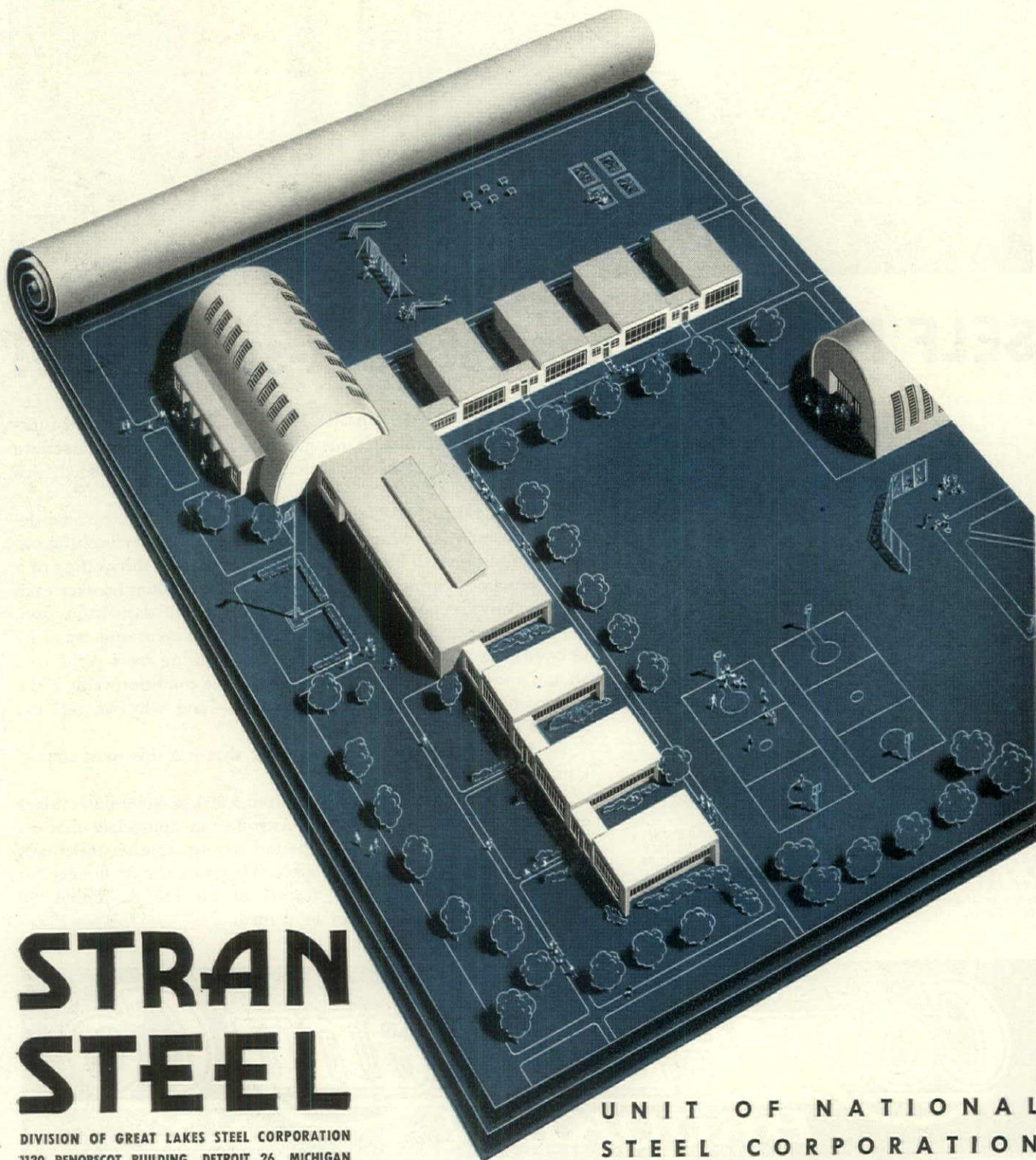
SINCE 1879  
**Coyne & Delany Co.**  
BROOKLYN N.Y.



# Strong Ally of a Strong America

With few exceptions, the changes and developments which can be anticipated in American life after the war must depend in some measure on the building industry. Better educational opportunities will require new school buildings; decentralization of industry will necessitate new communities of homes, industrial buildings, commercial buildings and municipal buildings; social rehabilitation will call for vast programs of slum clearance; and improved living conditions will demand large numbers of homes and housing projects.

Stran-Steel is well qualified to serve a progressive building industry, strong ally of a strong America. As a key supplier of military buildings, Stran-Steel has developed new techniques and acquired valuable engineering knowledge in the use of strip steel.



# STRAN STEEL

DIVISION OF GREAT LAKES STEEL CORPORATION  
1130 PENOBSCOT BUILDING, DETROIT 26, MICHIGAN

UNIT OF NATIONAL  
STEEL CORPORATION



## Strip Steel in Action . . .

### A New Design for Living

Strip steel's possibilities in tomorrow's planned communities are graphically portrayed elsewhere in this magazine. Stran-Steel Division designers, working in collaboration with Smith, Hinchman and Grylls, have created a "satellite" city of 15,000 located near Detroit, and entirely self-sufficient. Its buildings framed completely with Stran-Steel framing members, this "satellite" city represents a new design for post-war living without resorting to radicalism in design or industry upset. It is Stran-Steel at its enduring best.



## URBAN REDEVELOPMENT

(Continued from page 128)

this uncertainty on the ground that without a federal subsidy there is no way out of the dilemma.

If there is to be a subsidy, how can this be better applied than to assign credits to the states for distribution among their municipalities for the re-acquisition of needed public spaces. If, in the area under discussion, public space is to be increased, let the subsidy consist of two parts: first, a sum sufficient to cover the fraction of the entire valuation that this area bears to

the area of the whole district; second, a sum sufficient to cover the cost of putting the newly acquired lands into a condition suitable for public use; that is to say, enough to pay for the construction of the express crossway, revised minor streets and park areas.

At this point we shall avoid a discussion of whether the subsidy should be an outright grant or a loan at virtually zero interest and comparatively rapid amortization, say with a flexible rate ranging from  $2\frac{1}{2}$  to 6 per cent to be repayable from taxes derived from the properties. We shall concentrate our argument on the desirability of applying the payment for land in such

a way that its collective benefits are not dissipated. The payment for land returning to public use should be made in cash through a trustee for the area as a whole. This cash, representing the value of property transferred from private to public use, should become the working cash equity capital needed for rebuilding the remaining private properties.

### COMPOSITION OF EXISTING OBLIGATIONS

Of course, the average owner of real property in a blighted district would much prefer to be bought out in toto than to be made a party to an operation where he retains the responsibilities of ownership even though the procedure suggested does provide an interest in a much needed cash equity. It might be possible to undertake a very limited number of projects where large scale land assemblage could be made on the basis of outright purchase. It is obvious, however, that even the greatly exaggerated possibilities of federal subsidy would cover far less redevelopment if the subsidy were to be applied to *all* land rather than to only that portion of the land which returns to public ownership.

A great deal has been done recently to aid those who now own interests in blighted areas to take the initiative and to reorganize cooperative or corporate enterprise for urban redevelopment. The New York Urban Redevelopment Corp. Act of 1941 permits the use of eminent domain to compel conformity to a plan on the part of the minority provided interests controlling 51 per cent of the property of a blighted area have consented to the plan. The *Real Property Law* of New York makes it permissible for all types of fiduciaries to exchange mortgages, or property received as a result of default, for the securities of a corporation organized for the improvement of a blighted district. By this means property in a blighted district may be cleared of mortgage obligations and the property thus placed in a position where new financing should be possible.

### COMPENSATION

We should endeavor to make our scheme for the composition of existing obligations conform so far as possible to the needs of the process of physical transformation. This is not the place for discussion of the details of mortgage composition. It is sufficient here to recognize it as an essential step in the proceeding.

Next it will be necessary to reconcile those interests which will be disturbed during the transitional period. The physical work will proceed by stages and therefore the disturbance of exist-

(Continued on page 168)



## Will Reflect Our Experience In Helping Build P-47 Thunderbolts

**Y**ES, we are helping Republic Aircraft build these great fighter planes. In the Weisway factory we are making complete sub-assemblies for the P-47—ready to be incorporated in the finished plane.

Here is a job which involves familiarity with the latest developments in light, strong metals. It means fabricating to the precision requirements of the aircraft industry.

The "know-how" we have gained in this vital war work, our day-to-day experience will naturally be reflected in post-war Weisways, the improved Cabinet Showers we will produce when the war is won... when the choice of materials is again unrestricted and our production skill and resourcefulness can be applied un-

reservedly to peace-time products.

In the meantime Weisway Model V Cabinet Showers combine the best available materials with Weisway exclusive features and accurate prefabrication, to provide dependable and highly satisfactory bath facilities. These Cabinet Showers are available for prompt shipment and can be specified confidently for use in new construction or remodeling. Descriptive folder with complete information should be in your files—write now.

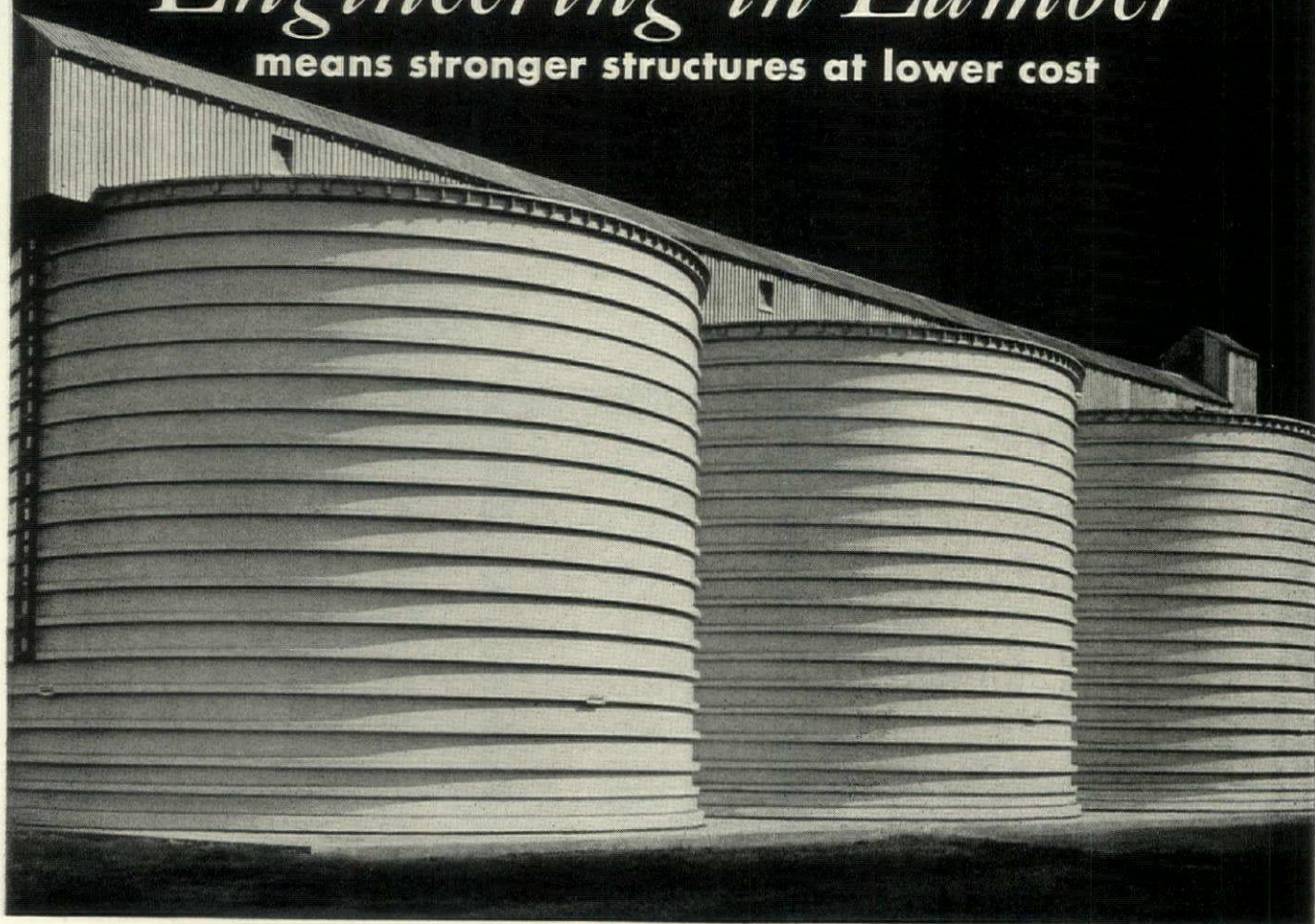


HENRY WEIS MFG. CO., INC. (Est. 1876)  
1002 OAK STREET, ELKHART, INDIANA



# *Engineering in Lumber*

**means stronger structures at lower cost**



● In these soy bean storage bins wood again demonstrates its wide adaptability as a structural material that delivers the finest type of storage at the lowest cost per bushel.

The development of modern structural glues made possible the fabrication of strong laminated wood bands. These bands were engineered to meet the load requirements. As the pressure decreases at the top of the bins the number of plies in the bands are reduced. The wide, laminated wood bands in tension provide adequate resistance to bursting pressures. Their broad bearing surfaces permit the use of relatively thin ( $1\frac{1}{4}$  inches) Douglas Fir flooring applied vertically which forms rigid walls and saves material.

The frame work supporting the conveyor housing, which extends along the top of the bins, consists of two timber Teco connected trusses. The span is forty-seven feet between the supports.

Advances that have been made in better and more economical use of lumber through wood lamination and the Teco connector system of construction, are well demonstrated in these bins. This cylindrical storage offers more cubage per linear foot of wall than any other type of structure.

Engineering in lumber will continue to broaden the field for lumber-built structures, because it will bring to our peace-time needs more efficient and more economical methods of building with wood.

As a result of the marked advances in Lumber Engineering, architects designing the future homes, service and commercial buildings, will find in wood a new versatility through which to assure more practical building functions.

**WEYERHAEUSER SALES COMPANY**

FIRST NATIONAL BANK BUILDING • SAINT PAUL, MINNESOTA

## **4-SQUARE LUMBER**



# URBAN REDEVELOPMENT

(Continued from page 166)

ing use will also be a step-by-step process. We will have to distinguish between the disturbance to owner occupants and the disturbance felt by absentee owners. It will be an advantage to all concerned to provide equivalent quarters for those displaced either from stores or apartments. This should be a means for reducing vacancies during the transitional period and keeping up the gross rents received for the district as a whole even though the character of the ultimate development may pro-

vide no outlet for this class of occupancy. For absentee owners or for the mortgagee interests, loss during the transitional period may best be compensated by continuing such payments as have been previously received (or setting up the needed debits or credits).

There are many ways in which the final distribution of capital obligations may be arranged. There may be many cases of urban redevelopment where each original property owner can be given back property which is practically identical to the property which he originally possessed. For example, the use of rear yards might be changed and the property owner might be

denied the right to erect indiscriminately placed out-buildings. In the particular case of urban redevelopment which we are considering, however, the existing types of buildings are completely obsolete. The desired future of the neighborhood calls for not only a different type of building but a change in the size of plottage required for a unit of development. Therefore, it would be virtually impossible to give each individual owner an individual parcel of property. For this reason, a certificate of participation will be the best means for indicating ownership. The development must of necessity be a large scale group project and the recognized long-term interests of all concerned will require the recognition of the necessity of combination.

Of course there may be a proportion of the ownership interests upon whom unusual hardship might be brought if unable to maintain independence of initiative. This should be recognized from an administrative point of view. In some cases it might be possible to furnish the facilities needed for individual business or residential occupancy; in other cases, where inability to withdraw capital would work a hardship, it may be possible to arrange for the purchase or discounting of the certificate of participating interest.

Whatever the method which is used for the assembly, it is the proper balancing of public and private interests that is of paramount importance for working the plan. Only through proper coordination of private and public interests can a project of such a character be brought within the range of economic possibility and carried to successful conclusion.

## FINAL BALANCE OF THE ECONOMIC AND PHYSICAL PLANS

It must be constantly borne in mind that coordinated city planning means several types of coordination. The district plan must be correlated to the plan of the city as a whole and to the plan of the sections which make up the district plan. The development of public space must be correlated to the development of the space remaining in private hands. Areas developed for a high rental yield must be correlated with areas developed for a low rental yield. Residential types of use must be correlated to other types of land use. The physical plan must be satisfying both from the esthetic and from the practical point of view. When we have succeeded in working out a plan in which these considerations are properly accounted for, then we are at the point of achieving the necessary coordination which has been lacking in so many of our sporadic attempts at city planning.

## WHAT *Calcium Chloride* CAN DO FOR POSTWAR CONCRETE



Office of W. L. Pereira and William Ganster, Associate Architects

Solvay Calcium Chloride is today being used in concrete for the construction of bomber bases, vital war plants, workers' homes, barracks, and army camps.

Tomorrow . . . for the post war period Solvay Calcium Chloride offers in addition to speed —

higher quality and greater strength . . . increased workability . . . denser more waterproof concrete . . . cold weather protection . . . smoother, harder surfaces.

### Architects · Designers · Engineers

Get the complete story of what Calcium Chloride will do including Bureau of Standards, P.C.A. other reports, by filling out the coupon to the left.



SOLVAY SALES CORPORATION,  
40 Rector Street, New York 6, N. Y.  
Please send me A.I.A. Bulletin No. 38  
and Solvay booklet "Calcium Chloride  
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Name .....

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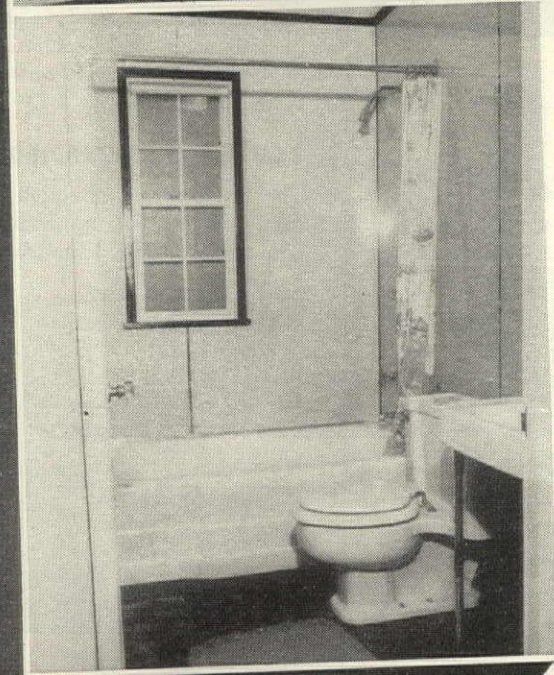
City ..... State ..... (108-10)





# Marlite

... A CREDIT TO  
ANY NEIGHBORHOOD



## WHY? Look at these reasons when you are planning . . .

**1—for the money!** Yes, moderately priced Marlite has a confirmed habit of pleasing people! Architects, builders, bankers, home owners and business men like it from the price side, particularly because variety in designs, types and colors assure appealing and serviceable installations in keeping with proposed expenditures.

**2—for the show!** Marlite "shows" well! Architects and designers like it because it gives full play to their creative ingenuity. Desired atmosphere for any room is effectively obtained with one or more of the Marlite types available. Builders and investors see Marlite as a real "clinger" for owner or tenant satisfaction.

**3—to get ready!** Now is the time to start 194X Neighborhood planning with Marlite. Exactness in manufacturing . . . simplicity of installation . . . ease of maintenance, colorful but rugged beauty . . . pre-war and wartime service records make Marlite a top candidate for all the 194X buildings you're planning.

**And 4—to go!** Yes, turn to Sweet's (section 11-27) see Marlite "in the flesh" . . . plain-colors, tile-patterns, horizontal-line, genuine wood-veneers, marble-patterns plus the complete selection of matching moldings! Or send for a full-color Marlite booklet today!

Photos on left: There's Marlite wall paneling for every room in the home as illustrated by this attractive prefab home owned by K. C. Nelson, president of General Fabricators. Marlite's ability to insure a "homey" atmosphere plus easy-to-clean, long-life and attractiveness guarantee owner or tenant approval.



# Marlite

REG. U. S. PAT. OFF.

*dutyful*  
for creating beautiful interiors

**Plastic-finished WALL PANELS**

**MARSH WALL PRODUCTS, INC. 101 MAIN STREET, DOVER, OHIO**



## FORUM OF EVENTS

(Continued from page 4)

The aim was a mutual exchange of ideas on the role of plastics in post-war construction and postwar homes. In spite of the unity of purpose many speakers wandered far afield. Lord & Taylor's Mrs. Van Wessop, apparently for reasons of her own, dealt thoroughly with the lack of coordination between designers and manufacturers of plastic buttons and zippers for ladies' ready-to-wear. However in some cases such digressions proved enormously stimu-

lating. Inventor Eugene Vidal did a masterful job of stirring imagination and anticipation by a smooth, colorful description of what molded construction had made possible in the design of modern aircraft.

The performance of the individual plastic was agreed by everyone to be an essential consideration. Joseph Kasper, suave vice president of Macy's warned: "Unless handled carefully and developed intelligently, plastics will arrive at a terrible let-down; too much will be expected of them. They should be made to stand on their own feet and treated as a new material rather than a substitute."



*Beautiful..yes,*  
**AND EFFICIENT TOO!**

**Post-War Window Areas** will no doubt be larger, as current trends continue. While generous fenestration opens exciting design possibilities . . . WINDOW EFFICIENCY will have to be examined more critically than ever before.

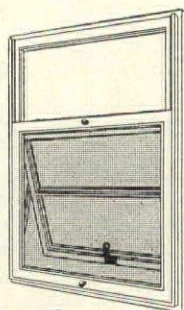
When stock-size Pella Casement Units are available again, compare these three design features with the field for BEAUTY and EFFICIENCY:

**WOOD and STEEL** both used in Pella Casement frames to combine beauty and strength.

**ROLSCREENS**, original roller-type inside screens. The ultimate in screen efficiency and convenience.

**DUAL GLAZING**, the single-panel type that mounts on inside of sash. Inconspicuous. Quickly and easily removed for cleaning.

Watch too, for the new Pella DOUBLE HUNG Windows which make the Pella line of windows COMPLETE for post-war homes and commercial buildings. ROLSCREEN COMPANY, PELLA, IOWA.



*For*

### TODAY'S HOUSING

Investigate Pella Awning-Type Windows available with screens and storm sash. For 2 x 4 frame, thin wall or masonry construction. White pine. Toxic treated. WRITE FOR FREE FULL-SIZE DETAILS. Address Dept. 2103.

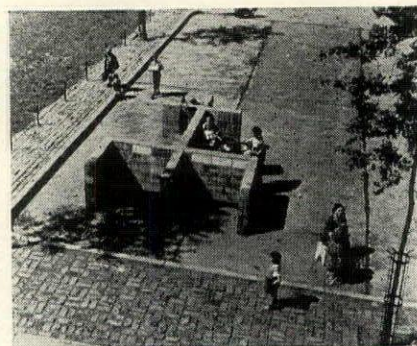
The estimated extent to which plastics will be used in the postwar era provoked violent differences of opinion. Speakers contradicted each other and themselves. J. Roy Price of Union Carbon & Carbide visualized "elastomeric plastics in the postwar house providing roll-up walls with various choices for summer and winter, plastic furniture and revolutionary flooring," but maintained that "the genius of designers will preserve them as guarded materials." Celanese Corp.'s Millard Demarest was gratified that the FPMA had recognized the limitations of plastics but foresaw the house of the future incorporating plastics "from behind the walls to the chimes on the front door." Morris Sanders flatly stated that there wasn't going to be an all-plastic house.

A vast amount of practical information was handed out but many listeners were befuddled by the diverse approaches and contradictory statements. Speakers tended to wallow in laboratory jargon or wander off in a too familiar plastic Eden. Generally speaking the audiences appeared friendly, casual and disinterested. A liberal sprinkling of Dache models contributed color if not seriousness and one enthusiastic Red Cross worker knitted industriously through the evening.

The most practical suggestion came from Freda Diamond who proposed that the leading plastic manufacturers and chemists set up a central pool of technical information for builders, architects and decorators. Summed up J. Scott Williams, acting president of the Architectural League: "Chemists, production men and industrialists have done their jobs. From now on it is up to the designers."

### DESIGN FOR PRETENDING

The mysterious fascination which children find in scurrying around an abandoned or partly demolished building



THE "DODGER"

has never been quite comprehensible to the retarded adult mind. To Alexander J. Moffat, manager of Red Hook Houses in Brooklyn, it simply indicated

(Continued on page 174)

**Pella WINDOWS** CASEMENT ★ "AWNING"  
PROJECTED WOOD SASH

Made by Makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS



you can protect exterior  
**masonry surfaces**  
with non-critical materials

The A. C. Horn Company announces WATERFOIL, a scientific contribution to masonry protection. Ten years of development are back of this product, including application on many structures under varying climatic conditions. WATERFOIL is now available for general use.

No priorities are needed for WATERFOIL. It is manufactured of non-critical materials . . . irreversible inorganic gels. WATERFOIL is not a paint . . . it contains no linseed oil . . . no resin emulsion . . . casein or cement. It hardens into a heavy coating of microscopic "spongelike" character. Water vapor finds exit; but actual water penetration is impeded, thus helping to prevent reinforcing bar rust and concrete spalling.

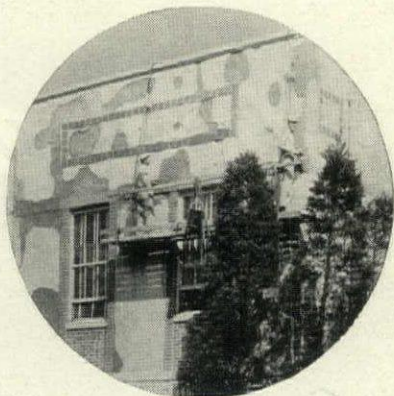
WATERFOIL becomes an integral "welded" part of the masonry surface to which it can be applied by any careful workman. No primers are used. If your masonry structures, brick, concrete or stucco, need decorative restoration and protection, get the details on WATERFOIL. Backed by a nation wide company with 47 years of experience. Write today for literature.

## A. C. HORN COMPANY

Established 1897

BUILDING MATERIALS DIVISION  
Long Island City (1), New York

**BRICK  
CONCRETE  
STUCCO**



# WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES



# America's greatest

## FOR MORE SHIPS



Last war it was 300 days for a Liberty ship. Today, through recourse to Arc Welding, they're building them out in 30 days. Some yards quicker.

## FOR MORE TANKS



Ordnance engineers by recourse to Arc Welding found faster output, greater strength and safety for tanks... made possible the victorious "General Sherman" M-4.

## FOR MORE PLANES



Recourse to Arc Welding put the wallop in slow spots in the production of bombers, fighters, trainers... improved their designs, too.

## FOR MORE ARMAMENT



Output of guns, scout cars, trucks, "jeeps", bombs was stepped up by recourse to Arc Welding in their design and in tooling-up fixtures.

THE LINCOLN ELECTRIC COMPANY • CLEVELAND, OHIO



*natural* reCourse...

# ARC WELDING

FOR MORE OIL



"Big Inch" pipe line was streamlined from lush Texas to oil-starved East in less than a year... does the job of 150 tankers... foxed the subs... thanks to oil men's recourse to Arc Welding.

FOR MORE PEACE JOBS



Look out for 50-mile-to-the-gallon autos... new machines of startling prices... tradition-smashing efficiencies... war-developed devices, now hushed... no end of jobs in smart plants (where recourse to Arc Welding is the rule).

**Recourse:** According to Webster, "a going to for aid or protection"



## FORUM OF EVENTS

(Continued from page 170)

the need for playground equipment which would provide more stimulation to children's imagination. He designed the "Dodger" to fill this need and it has since won him over 3,700 diminutive fans. A variation of the old, well loved wall served as the basic idea. The original "Dodger" resembles part of a foundation wall shaped like the letter E backed by the letter T. It was built of cement blocks to a height of 4½ ft. and a thickness of 10 in.

These dimensions were given careful thought. The height provides excellent conditions for playing hide-and-seek but is low enough to be scrambled over when the going gets tough. The 10 in. depth and flat top of the wall provide a firm foothold for balancing acts but the bays are wide enough to discourage jumping across.

None of the children were told the purpose of the "Dodger." It was simply built and left standing in an open space remote from the playground where it could be watched from the office window. At first the children approached it warily but when they found that they were not chased away hun-

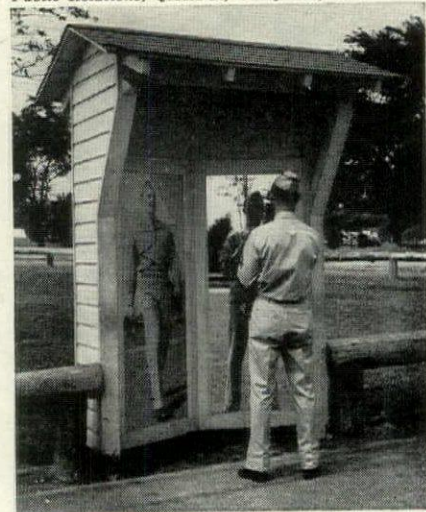
dreds of them began to swarm over it. The first reaction of every child was to climb up and stand on the wall. On the second day riding the various wings astride was in vogue. As it became familiar the "Dodger" was used for many long trips as a ship and plane, the children riding the body astride behind the pilot whose cabin was in the center front.

This ingenious device cost less than \$50 to build and has attracted the attention of housing managers and playground supervisors throughout the country. Not the least of its attributes is that to date no youngster has found a way to take it apart.

### ROADSIDE REMINDER

Unfortunately the valor of the American soldier is not always indicated by the fastidious appearance of his uniform. To jog the rakish dreamer back to the reality of U. S. Army standards and his role as its representative, the

Public Relations, QMRTC., Camp Lee, Va.



### G. I. GROOMER

Quartermaster Corps at Camp Lee, Va. has placed these full length mirrors in strategic spots near the exits. Because it is set at an angle to the road each man sees his reflection as he passes. The more confident soldiers can compare themselves to the life size military fashion plate placed beside each mirror.

### NAVY "E" AWARDS

First of four lumber mills to receive this recognition was the Longview Branch of Weyerhaeuser Timber Co. Formica Insulation Co. and Kewanee Boiler Co. were granted renewed awards for consistently outstanding service on the production front.

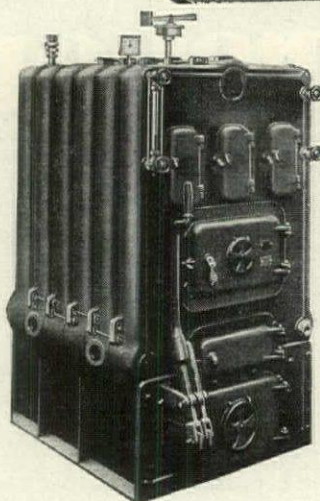
### CORRECTION

The advertising material of the Richmond Fireproof Door Co. was incorrectly indexed as the Richmond Screw Anchor Co. in the August issue, an error for which THE FORUM offers sincere apologies.

# Burnham

## Conversion Boilers

### STING FUEL BILLS

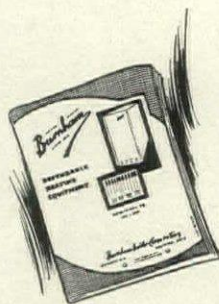


WHAT kind of fuel does your customer want to use—coal, oil or gas?

Burnham Tube Type Boilers are designed in such a way, that conversion from one type of fuel to any other type, can be made with a minimum of trouble and expense.

This fact coupled with Burnham's famous "long back and forth fire travel" assures savings regardless of the type of fuel used.

Send for catalog No. 79 which gives complete information and description of these Boilers.



## BURNHAM BOILER CORPORATION

Irrington, New York  
Dept. J

Zanesville, Ohio  
Dept. J

# Burnham Boiler





Tomorrow's home owners want basement space for recreation rooms . . . *not for screen storage.* They want screens to stay up year 'round . . . have an easier house to live in, and to save four ways:

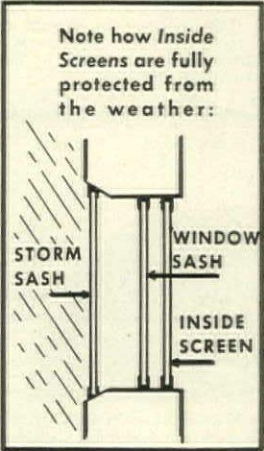
**SAVINGS No. 1:** No time and trouble to put up and take down outside screens. *Inside screens* don't even have to be removed when storm sash is installed.

**SAVINGS No. 2:** No costly painting and cleaning. No need for either with inside screens. They're simply dusted when one dusts around the window. They're washed at "house cleaning" time, along with windows, woodwork, etc. Being inside, they never become grimy nor weather-beaten.

**SAVINGS No. 3:** No replacement costs. Out of reach of the weather, neither the frame nor the screen mesh itself ever rusts or rots. The whole screen is thus spared outside weather deterioration.

**SAVINGS No. 4:** Storage space, which can better be used for other purposes, including recreation.

Will windows with such screens be available after the War? Yes... Mesker Metal Casement Windows, with inside screens even of plastic, if that's what you want!



Do you have your 164-page "Redbook of Steel Sash"? It's free upon request.

# Mesker Brothers

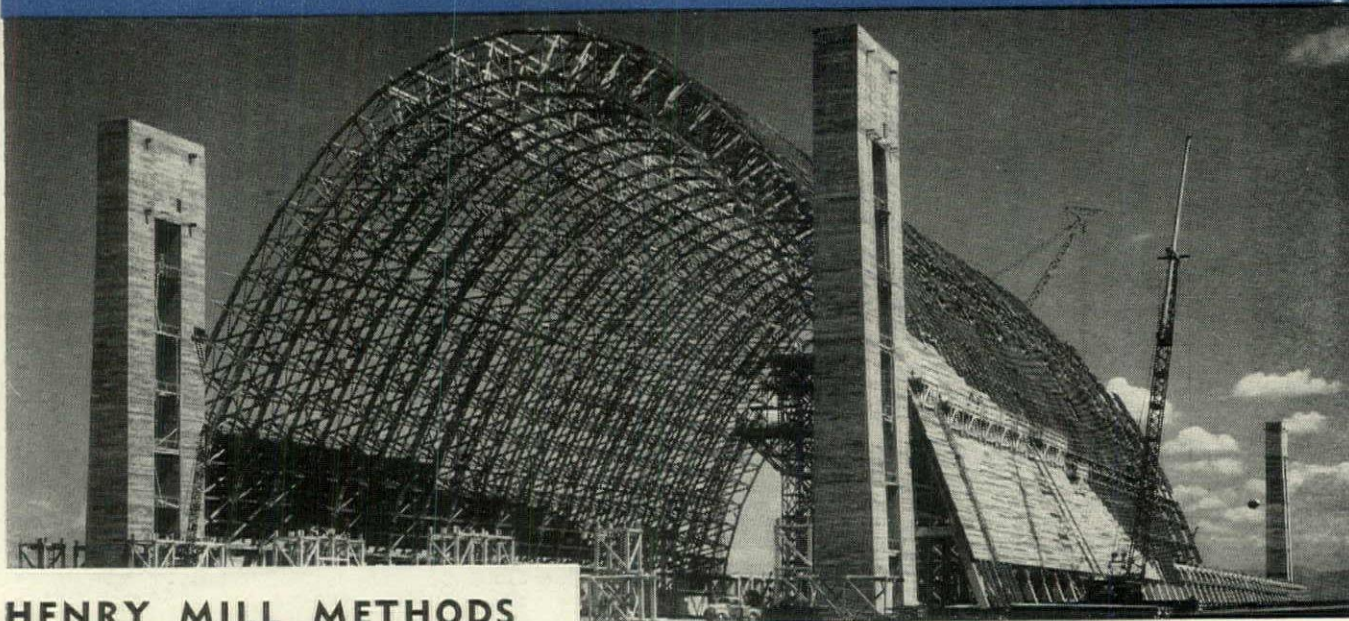
424 SOUTH SEVENTH STREET • ST. LOUIS, MO., U. S. A.

ESTABLISHED IN 1879 • OVER **64** YEARS OF METAL WINDOW RESEARCH

CASEMENT WINDOWS • MONUMENTAL WINDOWS • INDUSTRIAL WINDOWS • SCREENS • INDUSTRIAL DOORS • DETENTION WINDOWS • REINFORCING MESH GRATING

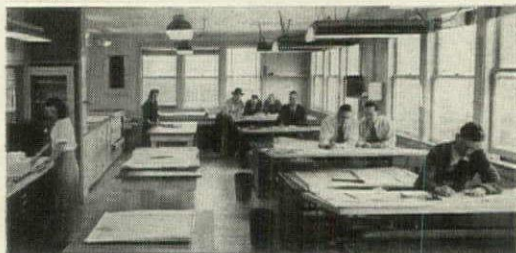


# PREFABRICATED BY HENRY MILL

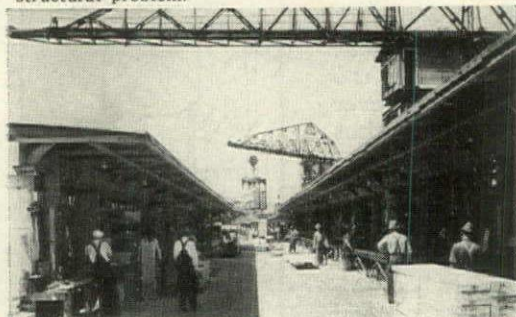


Henry Mill & Timber Company prefabricated structural framework for 5 of these gigantic blimp hangars for the Navy. More than 10 million FBM of lumber was involved, and fabrication was completed in 8 months.

## HENRY MILL METHODS



**1 DESIGN ENGINEERING—SPECIALIZED, RESOURCEFUL**—A staff of design engineers, thoroughly experienced in the design of wood for all structural purposes, is available to help solve your particular structural problem.



**2 MACHINE PRODUCTION**—"Assembly line" production methods with specialized equipment enables the Henry Mill to prefabricate heavy timber structures faster, cheaper, and with greater precision than is possible with hand-framing methods.



**3 FOLLOW-THROUGH**—Henry Mill accepts full responsibility for maintenance of production and shipping schedules—and for assembly and erection in the field where required. Henry Mill follows a standard procedure of periodic inspections and submits maintenance recommendations.

## TIMBER Construction Enters New Era!

MODERN timber engineering and machine fabrication has changed wood from a hand-framed material to a more adaptable construction element capable of bringing new speed and economy to many types of projects. HENRY MILL is an acknowledged leader in timber engineering—and in bringing modern machine methods to the prefabrication of heavy timber structures. This organization is at the service of owners, architects, engineers and contractors.

WRITE For "Prefabrication," a 90-page book now on the press, illustrating in detail Henry Mill methods and engineering detail of many projects completed.

**HENRY MILL**  
*Engineered*  
PREFABRICATED  
**TIMBER STRUCTURES**

HENRY MILL & TIMBER COMPANY

DISTRICT OFFICES: NEW YORK • CHICAGO • LOS ANGELES • SAN FRANCISCO • SEATTLE

Main Office and Plant: 2001 North Starr St., Tacoma 1, Washington



## MEMO FOR POST WAR PLANNING

Household operating and upkeep expenses come out of the same pocketbook as mortgage amortization payments. High-quality equipment, as supplied by General Electric, usually reduces monthly operating bills more than it increases monthly payments on the house...so actually it costs less to live better. REMEMBER, General Electric high-quality equipment will best serve the interests of your after-Victory clients or customers.

**GENERAL  ELECTRIC**  
HOME BUREAU BRIDGEPORT, CONN.



1. LAND



2. STRUCTURE



3. OPERATING EQUIPMENT



A HOME

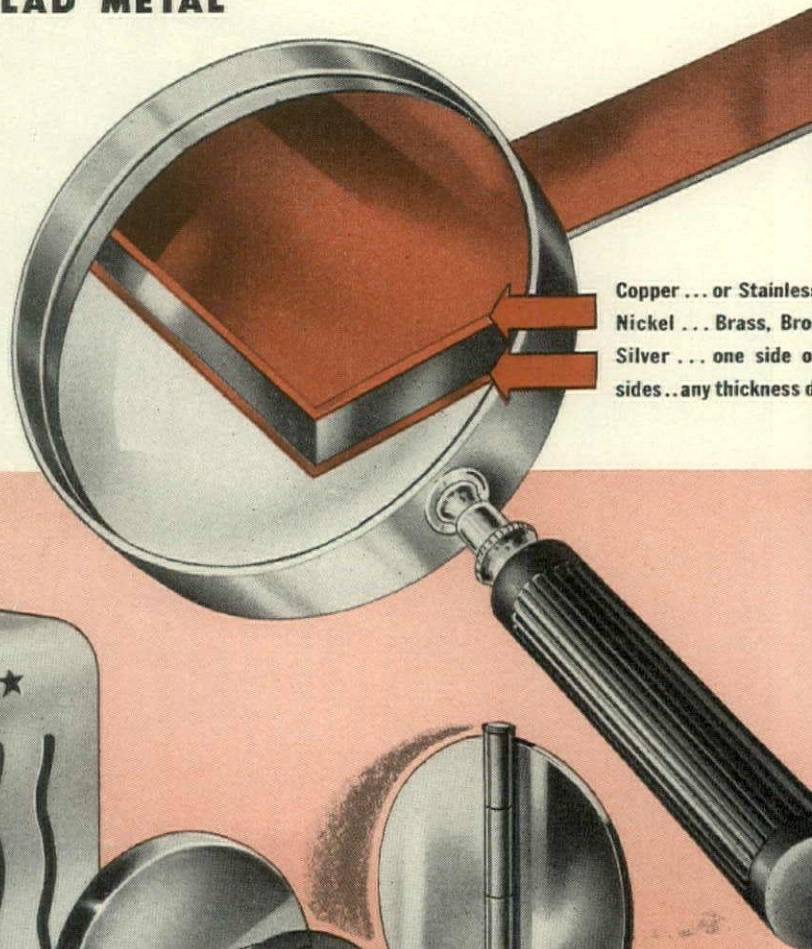


*Tomorrow*

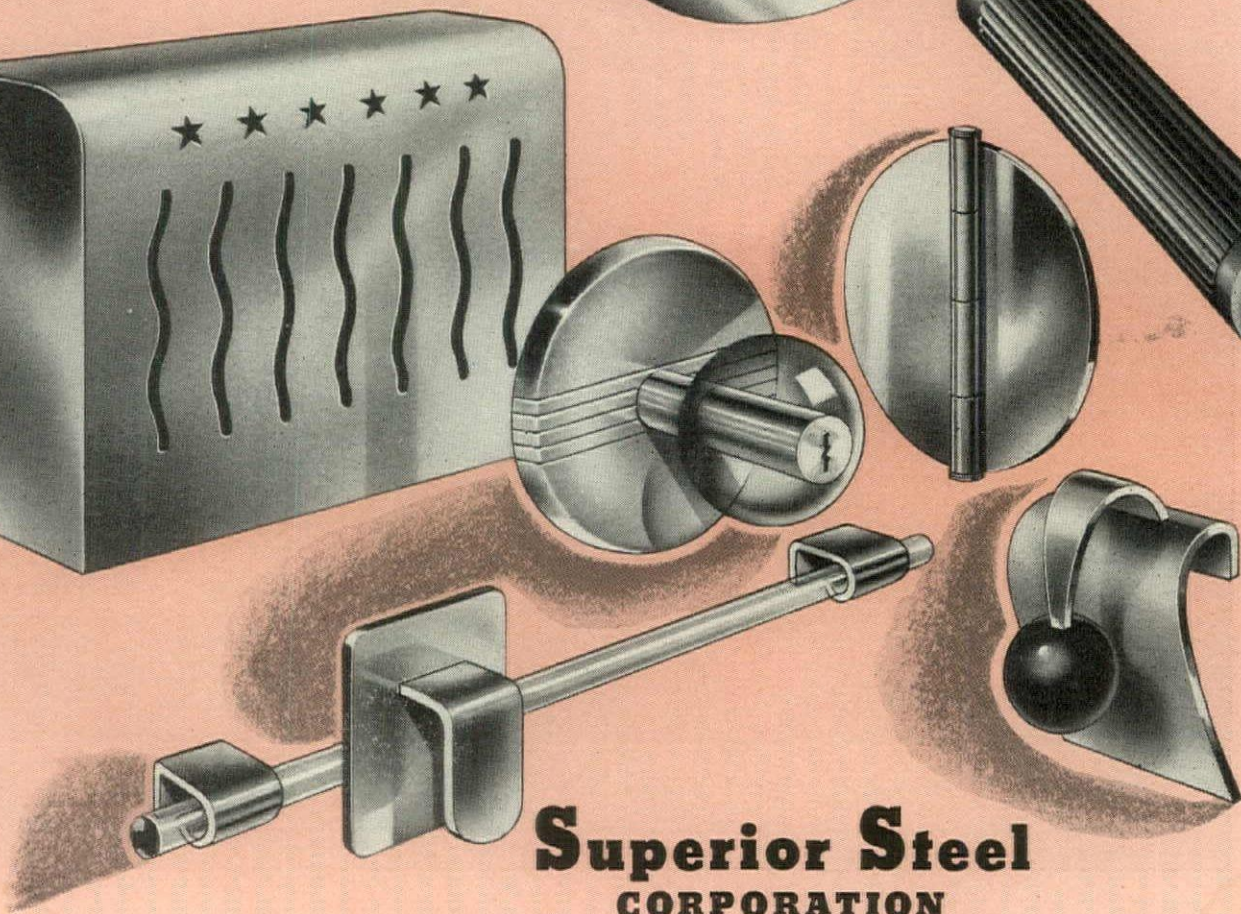
## BETTER BUILDERS' HARDWARE

with **SuVeneer** \*Trademark Reg. U.S. Pat. Off.  
CLAD METAL

SuVeneer Clad Metal—proved to the hilt in military performance—offers advanced service and economy in builders' hardware for tomorrow. Produced in strip form, with a base of plain steel to which more expensive metals are inseparably bonded, SuVeneer Clad Metal is shaped by the usual methods—frees the creative designer's hand in expressing new peacetime ideas!



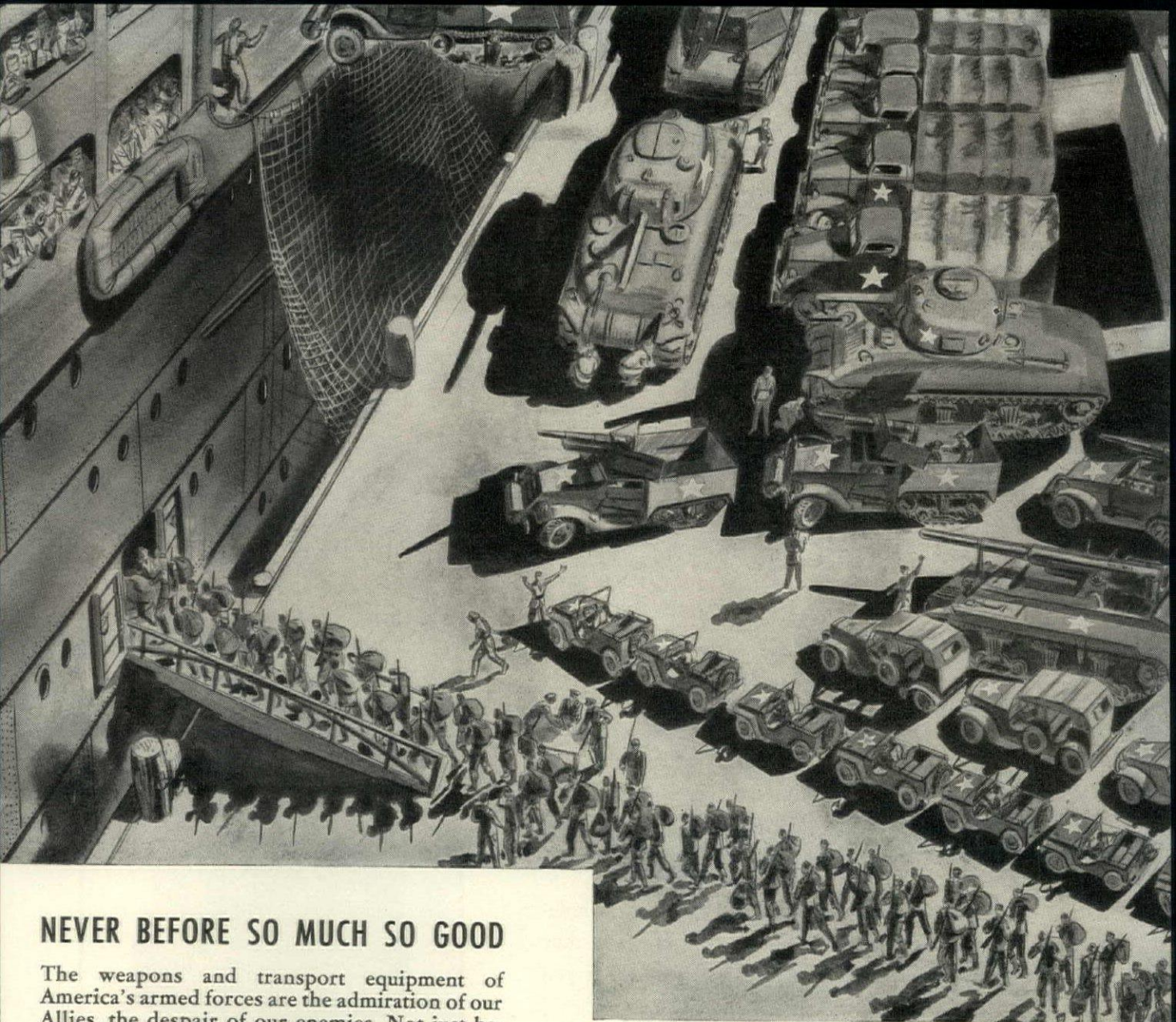
Copper ... or Stainless  
Nickel ... Brass, Bronze  
Silver ... one side or  
sides ... any thickness



**Superior Steel  
CORPORATION**

CARNEGIE • PENNSYLVANIA





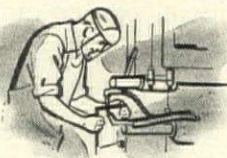
## NEVER BEFORE SO MUCH SO GOOD

The weapons and transport equipment of America's armed forces are the admiration of our Allies, the despair of our enemies. Not just because the quantity is overwhelming. But because the quality is superb. Never before in the history of the world has any nation's industrial plant been able to work to such close tolerances or maintain such exacting precision standards!

How is this possible? Air conditioning and industrial refrigeration are a vital part of the answer. They now provide constant, ideal atmospheric conditions at thousands of key points all along the war production front. And, when peace comes, air conditioning will help to provide better civilian products at lower cost—plus new "highs" in comfort.

In helping solve "conditioning" problems, Westinghouse draws upon years of experience with thousands of varied installations. The exclusive hermetically-sealed compressor assures economy, dependability, long life. Inquiries are invited from producers of war materials and from postwar planners.

**WESTINGHOUSE ELECTRIC & MFG. CO.**  
731 Page Boulevard Springfield, Mass.  
Plants in 25 Cities . . . Offices Everywhere



**COLD TIPS FOR HOT WELDING.** Electrode tips used for spot welding show increases in number of welds per cleaning—up to 1000%—when cooled by industrial refrigeration.



**QUICK CHECK FOR METALS.** Spectrographic analysis of metals saves time, cuts costs. For accurate results this test must be made under constant atmospheric conditions. Another job for air conditioning.



**THINER THAN THE THICKNESS OF A SHADOW.** To hold variations to minuscule limits, gauges are tested, stored and calibrated at specified atmospheric conditions provided by air conditioning.



**TOOLS THRIVE ON COLD CUTS.** Controlled - temperature coolant speeds production, prevents undue wear of cutting tools, reduces rejects. Industrial refrigeration keeps coolants cool.

Tune in John Charles Thomas, NBC, Sunday, at 2:30 P. M., E. W. T.

# Westinghouse Air Conditioning

GEARED TO A THOUSAND WARTIME NEEDS



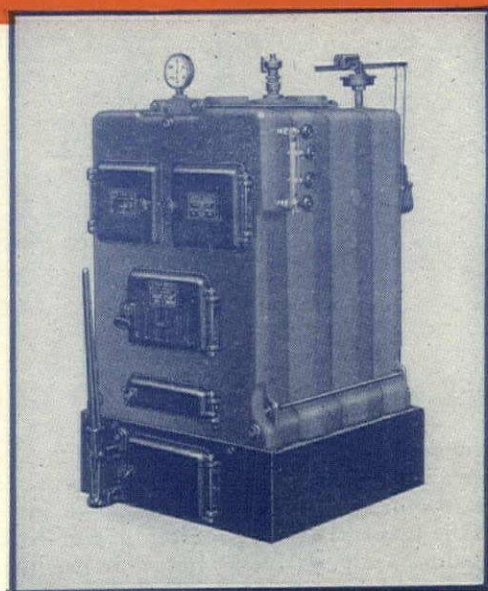
# PUZZLED BY CONSTANT CHANGES IN THE HEATING EQUIPMENT PICTURE?

Check with your U. S. Radiator Branch Office or Wholesaler  
... It's their job to give you any help they can

**Conditions** in the heating equipment picture are changing constantly. But U. S. Radiator and Pacific Steel Boiler Division are continuing to produce as much equipment as possible for essential civilian service.

**U. S. RADIATOR** Branch Offices and Wholesalers stand ready to help you in any way they can. Don't hesitate to consult them when you have a heating equipment problem.

**Under war** conditions, no one can guarantee how much equipment will be available, or exactly when it can be delivered, but you can rest assured they will give you their best.



U. S. Radiator plants are helping to meet important needs for healthful, economical heating by turning out boilers, radiators, as well as repair and replacement parts to the best of their ability and the limit of their capacity under wartime regulations. Many of these plants are also engaged in the production of vital war material.



## UNITED STATES RADIATOR CORPORATION

AND

### PACIFIC STEEL BOILER DIVISION

Detroit, Michigan • Branches and Sales Offices in Principal Cities

Manufacturing Plants At:

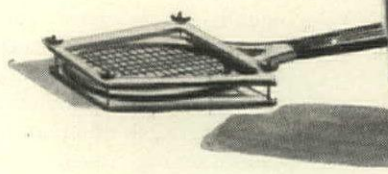
Bristol, Pa. • Detroit, Mich. • Dunkirk, N. Y. • Edwardsville, Ill. • Geneva, N. Y. • Waukegan, Ill. • W. Newton, Pa.



## QUESTION.

Exactly What Is Meant  
By Pittsburgh's

*Live-Paint  
Protection?*



## ANSWER.

The Word **LIVE** Applied  
To Paint Means Just  
What It Does When You  
Say "a **LIVE** Tennis Ball."  
A **LIVE** Paint Is One  
That Has Not Gone Dead  
...One That Retains Its  
Toughness And Elasticity!

## Improved "Vitolized Oils" Keep Pittsburgh Paint Film **LIVE**, Tough And Elastic

**T**HE development of "Vitolized Oils" is probably the most important single achievement in the long history of Pittsburgh Paints.

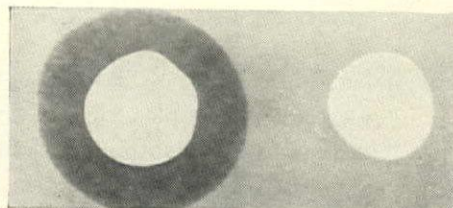
Test No. 1 at right shows how these "Vitolized Oils" remain in the paint film—are not absorbed into the surface beneath. Instead of becoming dry and "dead", the Pittsburgh film remains *live*, tough and elastic.

As you know, all surfaces swell slightly in hot weather—shrink in cold. Because of its **LIVENESS** and tough elasticity, the Pittsburgh film is able to expand and contract with-

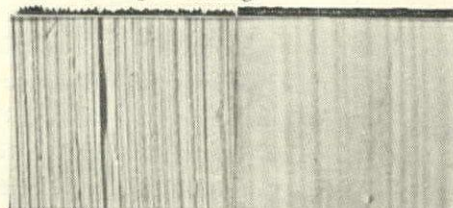
out cracking, therefore, the life of the job is substantially prolonged.

In addition to providing *live-paint protection*, Pittsburgh finishes level out smoothly (see Test No. 2), give wider coverage and are easy to apply. Color changes are minimized and chalking is controlled through pigment selection.

We have recently prepared a 148-page "Maintenance and Buying Guide". It contains a 48-page maintenance guide and other information useful to architects. The coupon will bring you a free copy.



**Test No. 1**—Note how ordinary oil (left) is absorbed into the surface below. "Vitolized Oil" (right) as used in the Pittsburgh Wallhide System remains in the paint film, keeping it tough and elastic—**LIVE**... enabling it to expand and contract with the surface over which it is applied. Thus Wallhide is better able to resist extremes of heat and cold without peeling or cracking.



**Test No. 2**—Ordinary linseed oil (left) does not level out well, leaves "hills and valleys" or brush marks. In Pittsburgh "Vitolized Oil" Paint (right), brush marks are rounded—with no sign of deep valleys. This uniform film of protection is better able to withstand weather wear.

# PITTSBURGH PAINTS

PITTSBURGH PLATE  GLASS COMPANY

PITTSBURGH

PENNA.

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

Pittsburgh Plate Glass Company  
Dept. AF-10 Pittsburgh, Pa.  
Please send me postpaid a free copy of your  
"Maintenance and Buying Guide."

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_



## BOOKS

(Continued from page 28)

to six hundred thousand people, and other changes, any of which is guaranteed to make the collective hair of a U. S. planning commission stand on end. Viewed from this side of the ocean the whole thing is strange and wonderful, but mostly wonderful.

In carrying out their instructions from the London County Council (see Aug. '43, p. 51), Planners Forshaw and Abercrombie made painstaking analyses of the 117 square miles under the Council's jurisdiction. They looked at

London as a series of communities, as a metropolis and Empire center, as a machine. They boiled down the innumerable defects of the city to four major categories: traffic congestion, depressed housing, inadequacy and maldistribution of open spaces, and the jumbled mixtures of housing and industry which exist in almost every section. Research was organized into detailed maps, such as the one reproduced. Aside from the fact that these maps, which are reproduced in full color, are very beautifully and completely drawn, they do not depart greatly from the procedure familiar to planners everywhere. It is

when the specific proposals for rehabilitation are made that the book takes on a quality of excitement almost unique in such reports. The authors take pains to deprecate this quality, and no doubt correctly. "One of the chief difficulties of every constructive scheme of boldness," they warn, "is that it shows a vision of the future assembled in a single report and group of maps. It appears as though the whole were to be carried out at once, with a corresponding shock to the uninformed who are led to imagine that it is much more ambitious than is really the case and very chimerical. Actually it is always intended that it shall be carried out in periods or stages. . ." The excitement, however, remains.

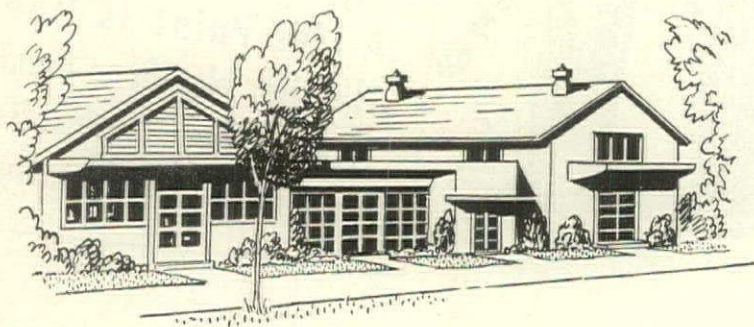
Typical of the breadth of the proposals advanced is the suggested reconstruction of an area in Shoreditch and Bethnal Green, a section rather close to the old City. Some 960 acres are involved, with the area divided up into eight neighborhood units, each with its own community and shopping center. The nature of the project is suggested by the axonometric view on page 28. A number of sections, including the banks of the Thames, are presented in equally detailed form. The existence of planning projects of such scope and completeness, obviously, provides material of unusual value for planners everywhere. In addition, the report discusses zoning, transport, open spaces, decentralization and other problems.

Despite the popular and official support this venture has received, it is clear that London, like our own cities, has a long way to go before its plans are translated into actual rebuilding. "Greatly enlarged powers, both legal and financial, must be made available," say the authors. There is a good bit of the familiar pleading: "The cost of falling into a pattern is no greater than that of 'peppering'. . . Every minute the metropolis continues to function in an unplanned way means a continuing loss to the community. . . Haphazard development is an extravagance: planning is sound business." And in conclusion: "Are we to continue the old haphazard methods or are we to work to a plan so that every new construction, road or open space fits into and builds up gradually an ordered, more healthy and more beautiful town? We have learnt the value of planning for war; peace will demand efficiency no less."

In other words, the proof of the London pudding will be in the building, and of this the County Council Plan is no guarantee. It is, however, a most impressive indication of a very healthy state of mind. To this extent at least, our British friends are well ahead of us.

(Continued on page 184)

## Tile-Tex is "physically fit" for Recreational Centers

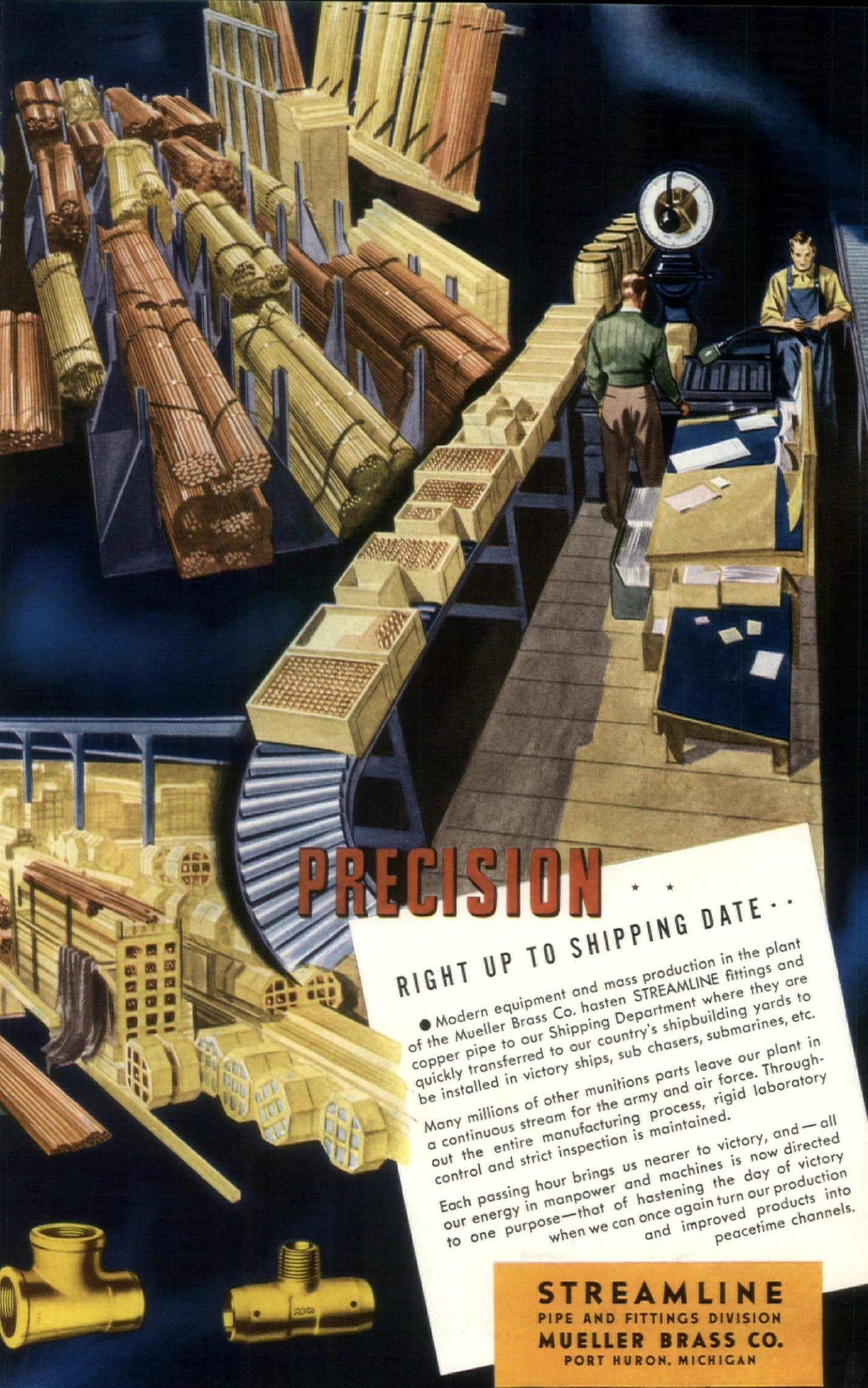


TILE-TEX floors are getting a rousing welcome . . . and a rigorous workout in the recreational centers from coast to coast. Trained to "take it" by years of development, Tile-Tex takes the hardest assignments in stride . . . and stands inspection like a cadet on parade. A ruggedly durable composition of asbestos and asphalt, Tile-Tex is ideally suited to the grueling service conditions of washrooms, storerooms, passageways and other areas where resistance to moisture, fire, acids and wear are prime requirements. In lobbies, office spaces, dining rooms and other like areas, Tile-Tex combines these essential features with good variety in color and design. Planned to give service . . . Tile-Tex requires but little. Maintenance calls only for occasional mopping . . . and installations may be made without interfering with the use of adjoining spaces. Write now for the name of an approved Tile-Tex Contractor . . . qualified to render complete, speedy Tile-Tex service.

### ★ The Tile-Tex Company

101 Park Avenue, New York City • Chicago Heights, Illinois





# PRECISION

RIGHT UP TO SHIPPING DATE . .

● Modern equipment and mass production in the plant of the Mueller Brass Co. hasten STREAMLINE fittings and copper pipe to our Shipping Department where they are quickly transferred to our country's shipbuilding yards to be installed in victory ships, sub chasers, submarines, etc.

Many millions of other munitions parts leave our plant in a continuous stream for the army and air force. Throughout the entire manufacturing process, rigid laboratory control and strict inspection is maintained.

Each passing hour brings us nearer to victory, and — all our energy in manpower and machines is now directed to one purpose — that of hastening the day of victory when we can once again turn our production and improved products into peacetime channels.

**STREAMLINE**  
PIPE AND FITTINGS DIVISION  
**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN





# ON YOUR "M Day"...

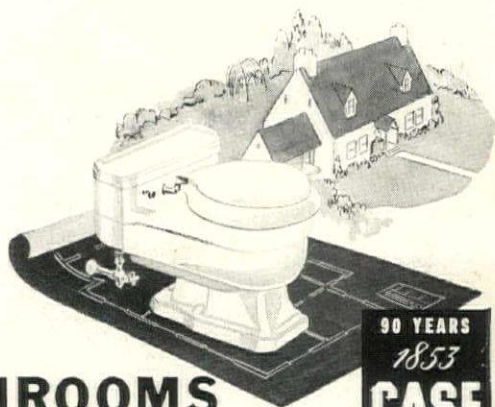
There is coming a day of unparalleled opportunity when men and women, having fought and worked for a way of living, set out freshly to enjoy it. Their

needs, and your plans to meet these needs, will shape a new America. You will be ready.

Simplifying your task and enlarging as never before your ability to provide comfortable, healthy and attractive homes, Case designers and engineers will be ready with many developments—among them Case Lifetime plumbing and heating equipment.

It is yet too early—much still must be done to win the war—for us to discuss in detail all that we hope to have ready on your "M day." But when that day comes you can be sure that the quality associated with Case products for over 90 years will be on people's minds. And you will surely be able to supply it.

W. A. Case & Son Mfg. Co., Buffalo.



# CASE

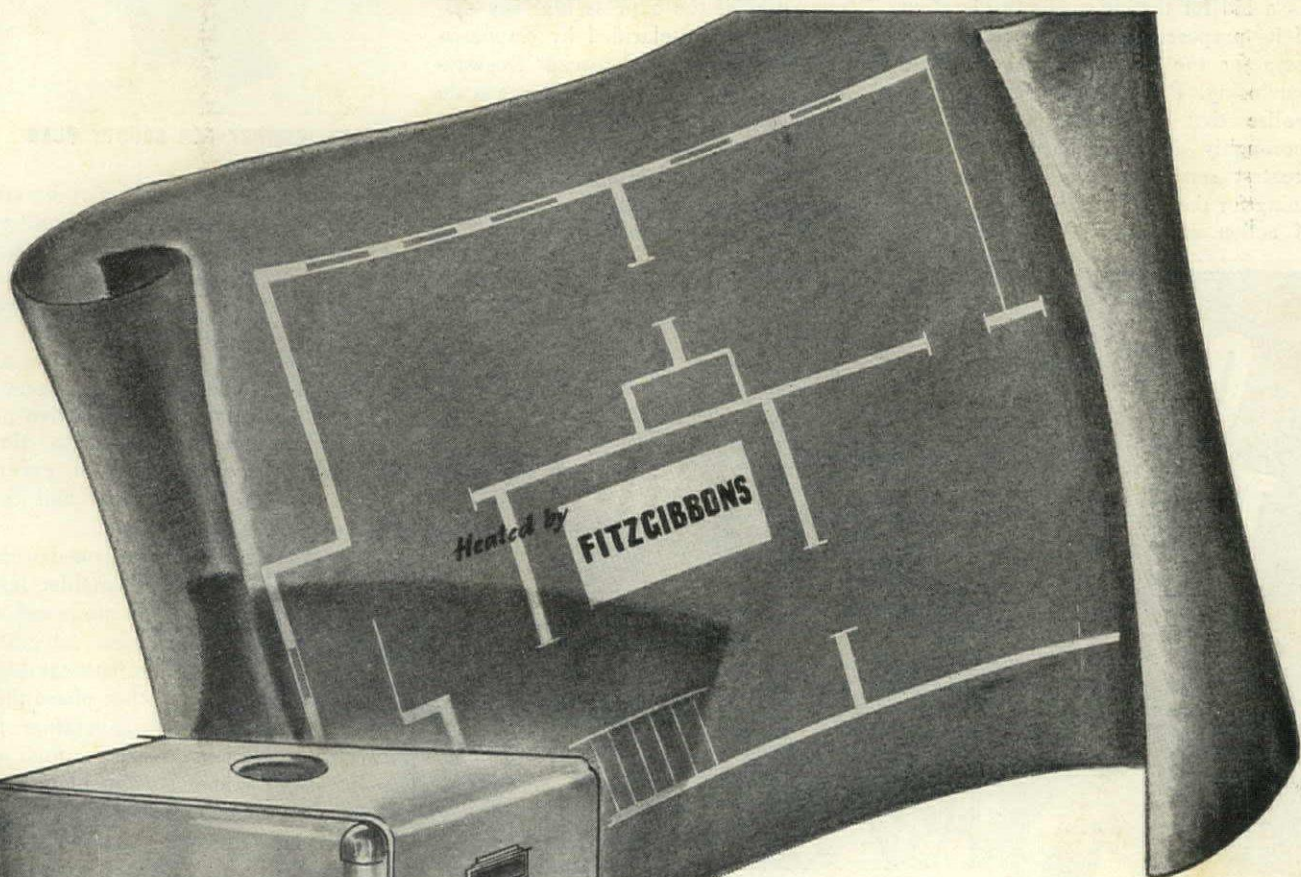
## LIFETIME BATHROOMS HOT WATER SYSTEMS

*Don't Relax—Back the Attacks!*

90 YEARS  
1853  
**CASE**  
1943  
OF SERVICE



# At the final command of **"CEASE FIRING"**



When you are  
ready to plan  
and to build

**FITZGIBBONS  
STEEL BOILERS and  
AIR CONDITIONERS**

will be ready  
to serve you

The last shot of the war will be the signal that starts the building rush. Planning NOW does not mean a let-down in the war effort. It is merely common sense. So—

PLAN NOW for "Heat by Fitzgibbons" in the homes you are designing, and—

BUY NOW as many War Bonds as you can to speed the day of VICTORY, when PLANS will become HOMES.

BUY U. S.  
WAR BONDS  
and STAMPS



## **FITZGIBBONS**

**Fitzgibbons Boiler Company, Inc.**

101 PARK AVENUE, NEW YORK 17, N. Y.      WORKS: OSWEGO, N. Y.  
OFFICES IN PRINCIPAL CITIES



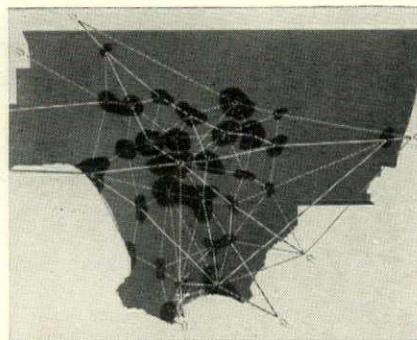
## BOOKS

(Continued from page 182)

**FREEWAYS FOR THE REGION—1943.** The Regional Planning Committee—County of Los Angeles. 50 pp. Illustrated. 9 x 12.

As a bid for the citizen's consideration of its proposed highway system, *Freeways for the Region* is elaborate and convincing. Professionals will quickly realize that it is authoritative and thoroughly documented. However, its greatest service is performed in outlining for the layman a practical course of action and establishing a tangible

goal. The graphic presentation with its many illustrations provides visual understanding of an undertaking which might otherwise seem too complex and technical to hold the interest of the average taxpayer. Only essential statistics are included, with these incorporated into a clearcut text. The characteristics of the express highway system are further clarified by emphasizing the difference between freeways and parkways. Anticipating large scale road construction as postwar public works the commission enlists public sympathy by explaining the relatively high ratio of available materials and man hours used by such projects.



**BASIC NETWORK FOR COUNTY PLAN**

Though the plan itself may be criticized for its rigidity and timid emphasis on existing thoroughfares, it would link a number of parkways which have been built in recent years at tremendous expense.

In detail the policy, standards and technical details appear intelligent if not revolutionary. The construction program has been divided into three phases for the extension of existing parkways, new construction and completion of the basic plan.

Los Angeles County is armed with a Freeway Act but this pamphlet leads one to believe that the proposed regional plan has not been integrated with the city's plan for postwar highways. While in every other phase there appears to be close cooperation between the various agencies, this one point stirs doubt as to the plan's ultimate chance for success.

Agreeing that rapid transit buses of the city parkways may also operate on the freeways, the commission states: "This would inevitably create a new downtown traffic problem . . . and would therefore require far more carefully and extensively planned terminal and transfer accommodation than can be provided on our downtown streets. Here again, the design and construction of the bus terminals would logically be done best if recognized from the beginning as an integral part of the freeway system."

The problems of future financing inspire no awe. Bonds, federal appropriations, public works funds, tolls and taxes are all considered as likely possibilities and as the commission remarks: "The fact that we cannot see details of a plan for financing 20 or 30 years ahead is no reason for failure to take the first step."

The pamphlet leaves a definite impression of accomplishment. In spite of the more obvious obstacles something is being done. Rights of way are being acquired now; administrative legislation is being set up now. The first peacetime phase of construction is ready to get under way and its relation to the completed whole has been established.



Almost our entire output is now going directly to the fighting forces.

The things we make have nothing at all to do with bathroom cabinets or with other Lawson peacetime products.

We are not sitting up nights over blueprints of postwar products. (Our pre-postwar products keep us busy enough as it is.)

We very much regret our inability to produce merchandise for you. We need hardly add that we will be back in the business of manufacturing a complete line of bathroom cabinets at the earliest possible date.

But, till the war is over, our job is to contribute what we can toward winning it. That is what we are now doing. And, unfortunately, we can only do one thing at a time.

**THE F.H.LAWSON COMPANY**  
Cincinnati, Ohio

**Lawson**  
BATHROOM  
CABINETS

127 YEARS  
OF QUALITY  
Lawson

127 YEARS OF LAWSON QUALITY



# SOME SHEET METAL IS AVAILABLE FOR *Vital Repair Work*



MANY people whose homes you have designed think they must "get by for the duration" with a faulty roof-drainage system or a defective flue. But the government knows the importance of preventing property damage and safeguarding health. So a limited amount of galvanized sheet metal has been allocated for the repair of drainage systems, smokepipes and other vital sheet metal work.

You can gain good-will and prevent serious troubles by letting your

clients know that sheet metal may be used for necessary repairs. You will also be helping the war effort by forestalling complete replacements later.

With sheet metal scarce, many architects and contractors are suggesting the use of an especially durable metal such as ARMCO Ingot Iron. While ARMCO'S mills are going full blast on war production, WPB has released some of this durable metal for maintenance work.

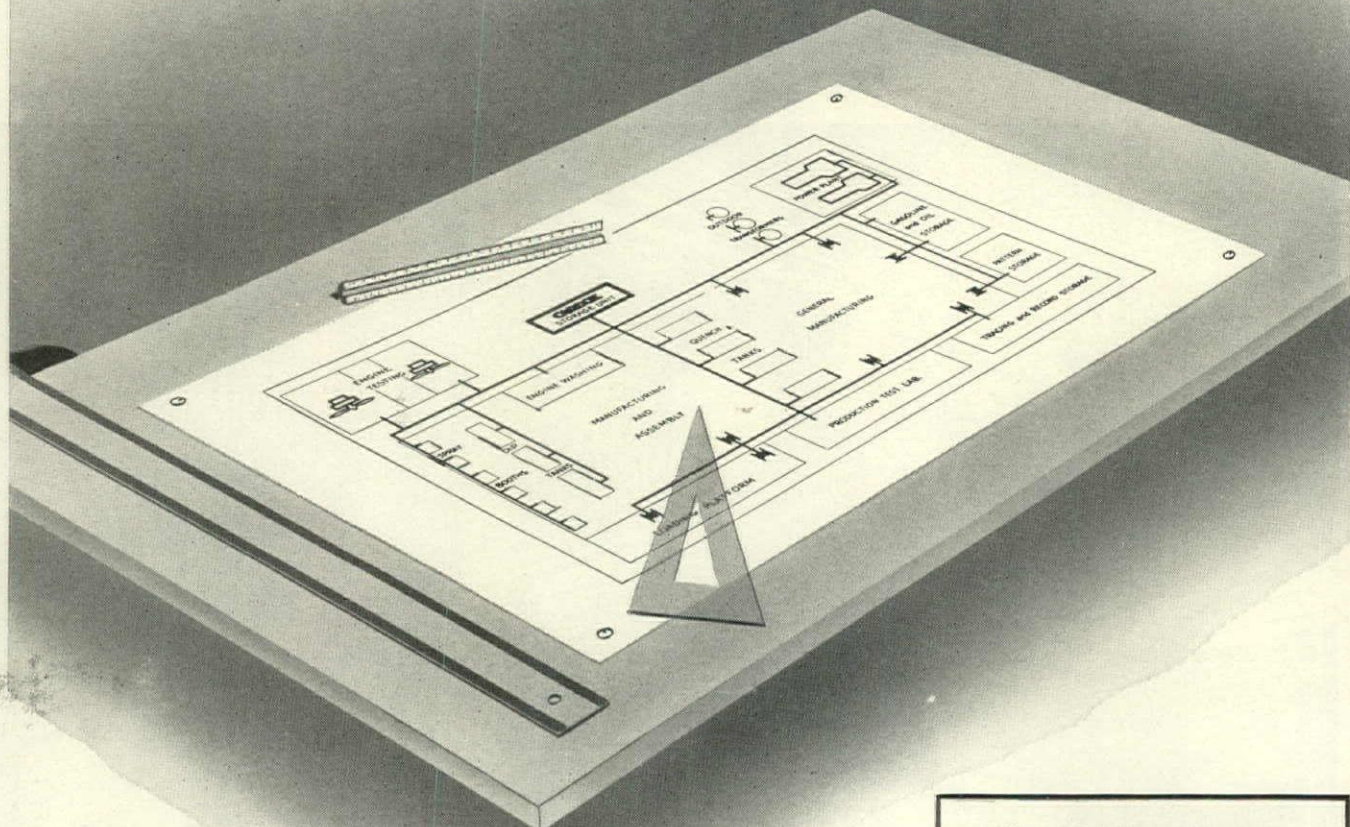
The nearby ARMCO distributor may have a supply on hand. The American Rolling Mill Company, 2571 Curtis Street, Middletown, Ohio.



**THE AMERICAN ROLLING MILL COMPANY**



# The Best Laid Plans



## Include FIRE PROTECTION by CARDOX

War has taught many lessons. One, for example, that has been emphasized by the vast war construction program is this: The time to provide for fire protection is during the planning stage . . . whether for new buildings or remodeling . . . with fire extinguishing systems engineered for the specific hazards they cover.

For example, here are some of the advantages you provide when you make Cardox Fire Extinguishing Systems an integral part of your building plans:

1. Flexibility of Cardox engineering makes possible protection for one or many hazards—of similar or diverse nature—by one complete system . . . with each application engineered for the specific hazard it covers.

2. Mass discharge of Cardox CO<sub>2</sub> at high rate of flow and in pounds or tons, provides a system of fire protection which "cools out" and extinguishes large or small fires in the shortest possible time . . . with no damage to the building or its contents by the extinguishing medium.

3. Cardox Systems . . . because they are engineered for the specific hazards they cover . . . can be readily incorporated into your plans, whether these plans

relate to new construction or the remodeling of existing buildings.

Many of America's largest war production plants are protected by Cardox Systems specified for the job, engineered to the job. The accumulated large-scale experience gained in developing this fire protection for vital industries producing Airplanes, Aviation Engines, Plastics, Rubber Products, Solvents, Motor Fuel, Electric Power, etc., is available to architects planning buildings for essential war production and postwar activities. Write on business letterhead for Bulletin 6103.

### CARDOX CORPORATION

BELL BUILDING • CHICAGO 1, ILLINOIS

District Offices in New York • Washington  
Detroit • Cleveland • Atlanta • Pittsburgh  
San Francisco • Los Angeles • Seattle

### How Cardox Systems Protect War Industries

- Timed discharges, as needed, through built-in piping systems . . . supplied instantly from a single storage unit holding tons (if required) of liquid Cardox CO<sub>2</sub>.
- Mass discharge of Cardox CO<sub>2</sub> "knocks out" fire, by . . .
- Reducing oxygen content of the atmosphere below the concentration necessary for combustion, and . . .
- Cooling combustibles and fire zone below ignition temperature . . .
- Extinguishing fire quickly and completely without damage from extinguishing medium.

### CARDOX—CO<sub>2</sub> Systems with Enhanced Fire Extinguishing Performance

- A. Uniformity of CO<sub>2</sub> characteristics.
- B. Extinguishing medium with uniformly greater cooling effect.
- C. Accurate projection of CO<sub>2</sub> through greater distances.
- D. Timed discharges, as needed, through built-in piping systems . . . supplied quickly from a single tank holding tons of liquid Cardox CO<sub>2</sub>.







# WE'RE KEEPING OUR EYE —on the Pitcher

In this big game of war, LCN is playing for keeps. We're proud of the ever-mounting stream of vital small parts our factory is turning out for planes, tanks and other war machines.

But—we're keeping our eye on the pitcher. A quick snap of the wrist isn't going to catch us flat footed . . . off the bag.

Even as our busy machines whirr and buzz

with war activity, the boys in the back room—engineers, designers, sales executives—bend over new designs for better living . . . ideas to short cut the dangerous "in between" days when war production halts.

In those days your need for goods may be great—and immediate—to meet the stored up demands of a great new era. LCN will be ready when your call comes in.

**NORTON LASIER COMPANY • 466 West Superior Street • Chicago**





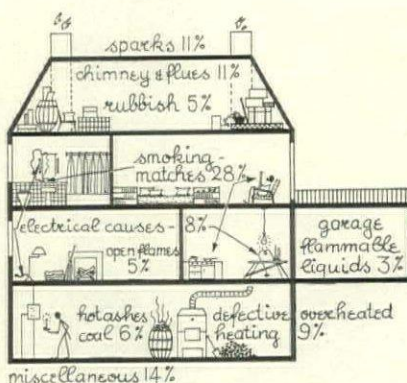
## BUILDING REPORTER

(Continued from page 8)

tional outlets or even additional wiring, expenses well justified when a costly fire can be averted.

Check-ups should be made yearly of furnaces, lighting and electrical appliances. The housewife can make her own inspection of attic, cellar and cleaning closets where rubbish has been allowed to accumulate and where flammable liquids are improperly located.

In the past, fire extinguishers have been overlooked in the design of a

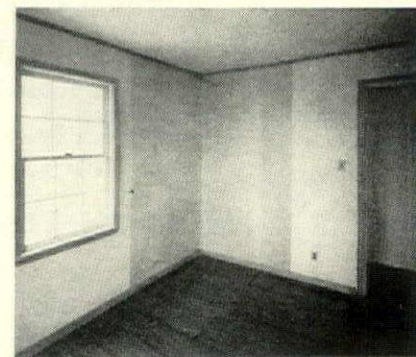


house. These may often spell the difference between a minor conflagration and a major disaster. Provisions

for their convenient yet inconspicuous location could be made at key points in the home. Niches near the outside kitchen door or at the top of the basement stairs, on the second floor landing and near doors between structural units will obviate the need for make-shift arrangements later on.



**Prefabricated house** is made almost exclusively of plywood. It has been experimentally built by The Mengel Co., Louisville, Ky., to test out new uses for its wood products after the war. Among the ideas worked out in this \$6,500 house are a plywood wall system, flush doors of improved construction and advanced designs for kitchen cabinets. The house was built under the PHC system, with a dry-wall construction throughout, using Southern hardwood Mengelbord panels in various designs. A scarfed joint for walls and ceilings has been adapted from airplane construction to overcome the problem of the joints usually necessary in a dry-wall system. The new technique utilizes to the fullest extent the stressed-skin principle, so that plywood can be used as a structural member. Flush-wall construction eliminates batten and furring strips, as well as unsightly nails, and is readily adapted to field construction. The architect can now design plywood load-bearing walls and finish them in hardwood paneling or cover them with wallpaper without fear of cracks developing. Flush doors in plain interior finishes and oak plywood floors blend well with the Colonial design. The kitchen is equipped with the latest Kemper cabinet, another Mengel plywood product.



MENGEL CO. ALL-PLYWOOD INTERIOR



## "Giving it the GLUE GUN"

**H**ERE'S the operation that's saving critical nails, speeding construction and developing new structural strength in hundreds of different wartime building jobs today . . . laying down a ribbon of Laucks Construction Glue with a Laucks Glue Gun.

This operator is making a floor assembly for army overseas housing units. The plywood floor will be affixed on top of this insulated frame section in another moment . . . making a rigid, stressed cover assembly that can "take it" in transportation and in service.

It's just another example of applying more than 20 years of gluing

knowledge to a specific construction problem . . . the kind of practical "know how" that's made I. F. Laucks, Inc., the world's largest manufacturers of water-resistant and waterproof glues.

Investigate what Laucks Glue and Laucks counsel can do for you . . .

### I. F. LAUCKS, Inc.

#### Lauxite Resins — Lauxein Glues

CHICAGO, 2 — 6 North Michigan Avenue  
LOS ANGELES, 1 — 859 E. 60th Street  
SEATTLE, 4 — 911 Western Avenue

#### Factories:

Seattle, Los Angeles, Portsmouth, Va., Lockport, N. Y.

#### In Canada:

I. F. LAUCKS, Ltd., Granville Island, Vancouver, B. C.  
HERCULES-LAUX-MERRITT, Ltd., Stanbridge, Quebec

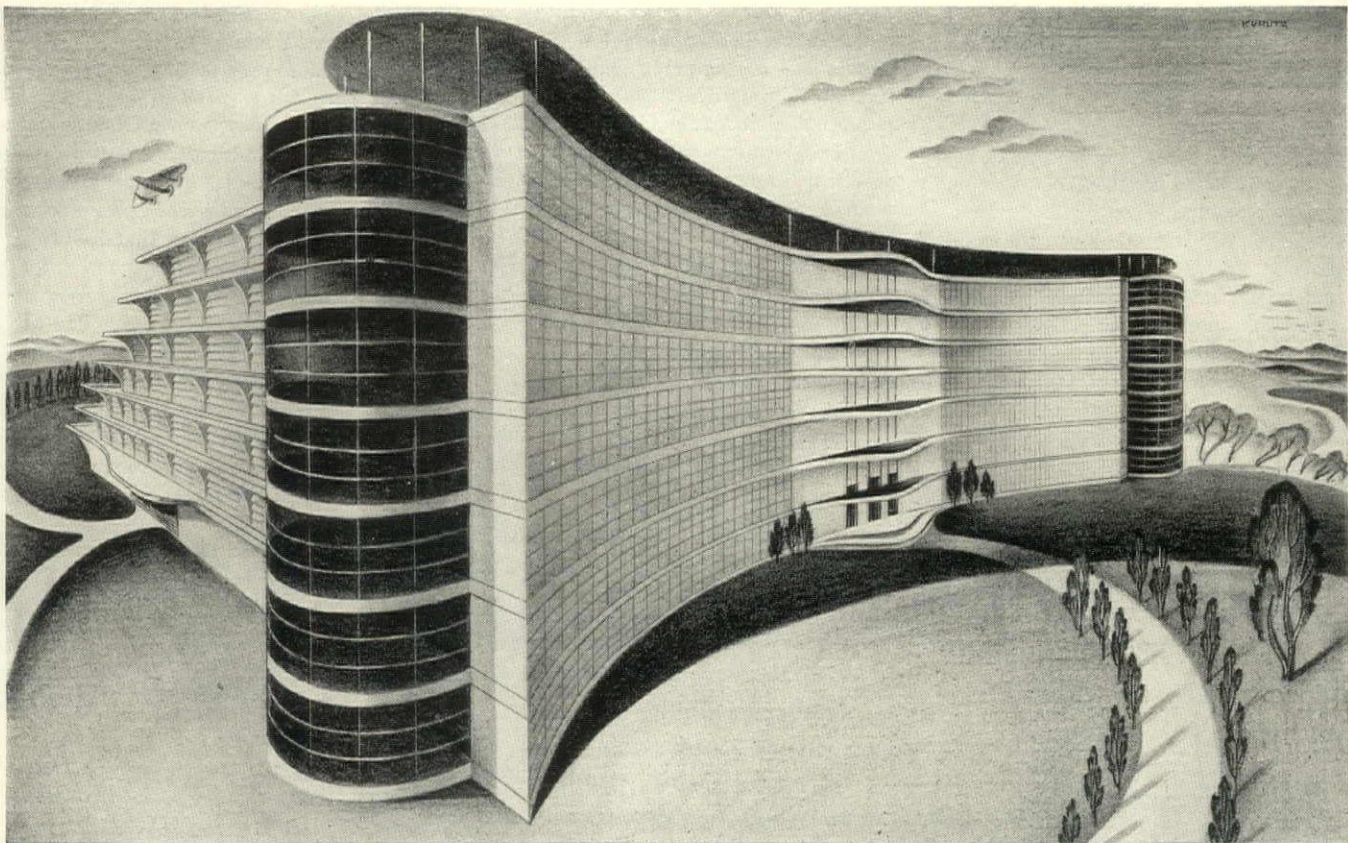
• Don't forget, LAUX REZ, the pioneer resin sealer and primer, protects wood as rust-proofing protects metal.



## LAUCKS CONSTRUCTION GLUES

Consult LAUCKS—America's Glue Headquarters





# To the Men Who Are Planning the Future

## **PUBLIC, COMMERCIAL AND INDUSTRIAL BUILDINGS**

Some day the war will end. Then we'll have a building boom. Everything points to it. Schools, hospitals, business structures, churches, recreational facilities, theatres and libraries will be needed. Consideration is being given to the rebuilding of whole sections of cities. Mass housing projects will grow. And, even with the industrial expansion of wartime, many industrial plants will be obsolete at the end of the war. There will be many materials with which to erect these structures—each with certain specific advantages. Among them is STEEL—which already has proved its merit—which *provides a combination of qualities found in no other material.*

Steel is strong, tough, stiff, safe . . . high in strength-to-weight ratio . . . resistant to heat and cold, to corrosion, oxidation and abrasion . . . fireproof, vermin proof, splinter proof . . . does not absorb moisture . . . is free from warpage and shrinkage . . . sanitary

and clean . . . a stable base for finishes, or in stainless grade a lasting, silvery finish in itself . . . produced in many forms . . . easy to fabricate . . . inherently long in life . . . low in cost per year of service.

When you are ready to erect your post-war structures, Republic will be ready as in pre-war days with the most complete line of steels and steel products made by a single manufacturer. But they will be improved—through new developments now taking shape in research departments—through new steels and knowledge resulting from wartime development.

See Sweet's Architectural File or write us for detailed information on any of the products listed below.

### **REPUBLIC STEEL CORPORATION**

General Offices: Cleveland 1, Ohio

Berger Manufacturing Division • Culvert Division  
Niles Steel Products Division • Steel and Tubes Division  
Union Drawn Steel Division • Truscon Steel Company  
Export Department: Chrysler Bldg., New York 17, N. Y.



# *Republic*

## **STEELS AND STEEL PRODUCTS**

Pipe, Sheets, Plates and Roofing in Steel, U-Loy Copper-Bearing Steel and Toncan Iron • Enduro Stainless Steel • Toncan Enameling Iron • Taylor Roofing Terns • Electrunite Steeltubes (E. M. T.) • Fretz-Moon Rigid Conduit • Steel Shingles • Steel Siding • Upsun Bolts, Nuts and Rivets • Wire Nails • Metal Lath • Concrete Reinforcing Materials • Toncan Iron Corrugated Pipe, Sectional Plate Pipe and Arches • Berger Lockers, Bins, Shelving • Truscon Steel Windows, Doors, Joists, Steeldeck Roofs and other fabricated building products.



## BUILDING REPORTER

(Continued from page 8)

the factory. Side panels are simply snapped into these joints when the shower is erected to form continuous, leakproof seams. Front pilaster columns, too, are mounted on the side panels at the factory. First, the back panel is set in place inside the receptor and side panels snapped into place. Top reenforcing trim and threshold are then set in position. Only a few self-threading, metal-working screws, placed in already punched holes are required to complete the fastenings.

Joints, front stiles, top trim and threshold are formed of rustproof steel. Wall panels are of tempered, hard-pressed, treated fiberboard, finished with waterproof baked-on enamel. Receptor is of reinforced concrete. Shower is 32 x 32 x 75 in. Parts have been carefully formed to eliminate raw edges inside the cabinet.

**Manufacturer:** Fiat Metal Manufacturing Co., 1205 Roscoe St., Chicago, Ill.

**NEW ADHESIVE** is both thermoplastic and thermosetting.

**Name:** Adhesive No. 4624.

**Features:** This adhesive is being used to bond thin plywood sheets that are

molded to form the bodies of military helicopters. When plywood forms are heated under pressure, glue becomes fluid, permitting perfect contact of laminates, and after twenty minutes sets as a permanently tough, heat resistant, insoluble material. Thus, plywood bonded with this adhesive is unaffected by the high temperatures that build up in the interior of airplane surfaces under a tropical sun. In fact, plywood of this type will withstand being boiled for three hours. New adhesive also retains its flexibility at low temperatures and weighs almost a fourth less than other suitable materials. Although it is more costly than other bonding agents, this is compensated for by its unique properties.

**Manufacturer:** E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

**RADIAL SAW** has several structural improvements.

**Name:** Uni-Point Radial Saw.

**Features:** Hardened steel in all vital wearing parts—ram, bearings and ways—makes this improved saw a lifetime machine, which will meet the present heavy production requirements. An additional improvement is the dust cover which telescopes with the ram, enclosing it and keeping out sawdust and dirt. The new machine embodies the well known principle of one-point cutting: the saw always enters the work at the same point in the table regardless of the angle of cut. Stops can thus be arranged to provide a definite dimension from the saw cut to the stop, regardless whether the angle is straight cut-off, bevel, miter or compound miter. Once the blade is properly set for cross cutting, it remains properly set for any cross-cut angle change. Angle adjustments can be made while saw blade is rotating. All controls are located in a safety zone at the front of the machine, and it is never necessary to reach around the saw to make adjustments.

**Manufacturer:** The American Saw Mill Machinery Co., Hackettstown, N. J.

## Have You Heard?



**THE FAMOUS "SCRATCH-TEST" CHANGED THE FLOOR BUYING HABITS OF MILLIONS BY PROVING THE DURABILITY OF "BRUCE-WAY" FINISH AS COMPARED WITH ORDINARY FINISH!**



**THE BRUCE STREAMLINE FLOORING LAID IN THE PAST 3 YEARS WOULD BE ENOUGH TO FLOOR EVERY HOME IN THE STATE OF MAINE!**

**UNIT-WOOD BLOCK FLOORING AND STREAMLINE FLOORING ARE THE TWO MAJOR IMPROVEMENTS OF THE PAST 25 YEARS IN THE HARDWOOD FLOORING INDUSTRY. BOTH ARE BRUCE PRODUCTS.**



**AND AFTER THE WAR...** Bruce Streamline Flooring will be back, for you to lay in thousands of new and remodeled homes! Bruce wood technologists and chemists are working *now* on better hardwood flooring for the future. You may be assured that the outstanding floors of tomorrow—as those of today—will be products of E. L. Bruce Co.!



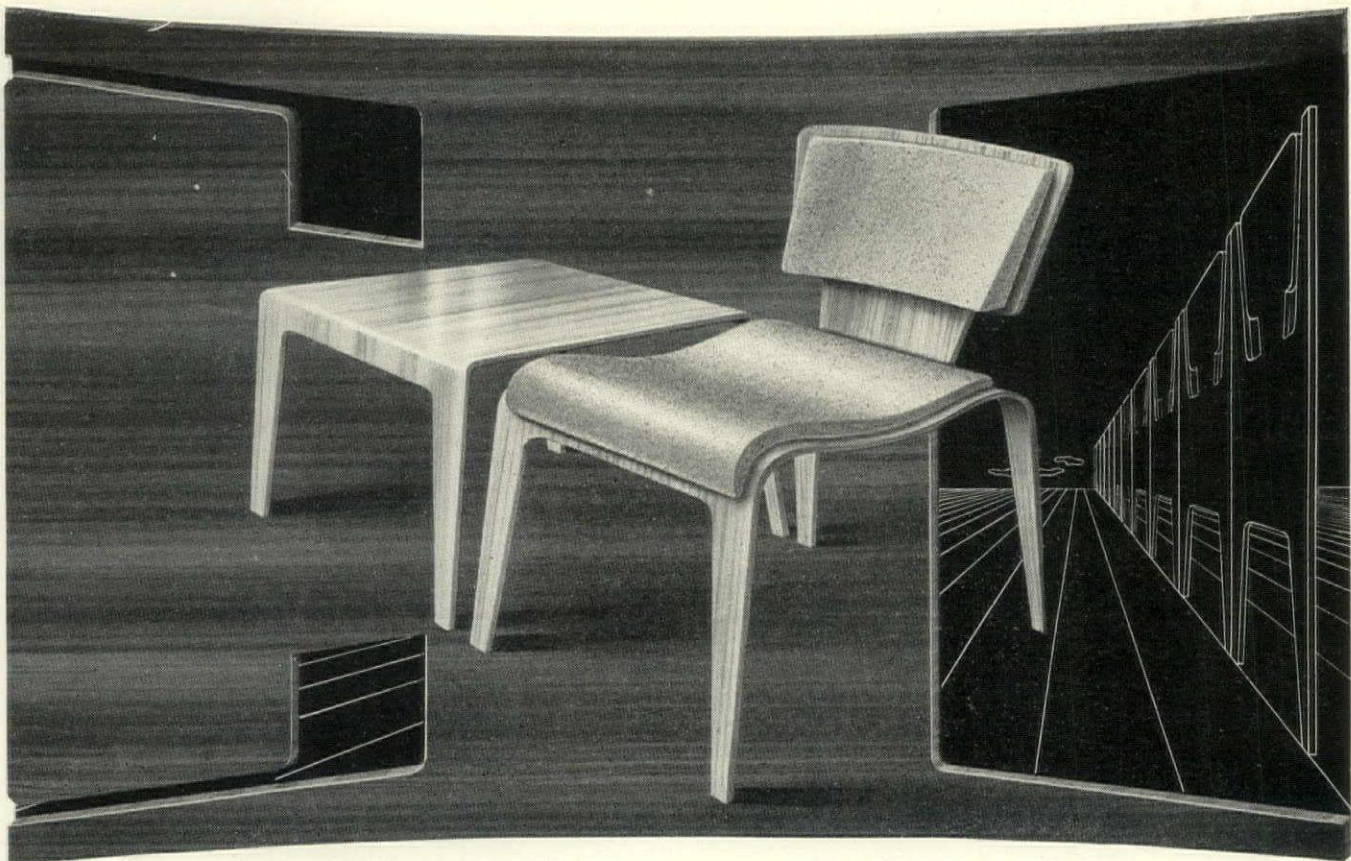
(Technical Literature, p. 192)



**Factory-Finished  
STREAMLINE HARDWOOD  
FLOORING**

Trade-Mark Reg. U. S. Pat. Off.  
**A PRODUCT OF E. L. BRUCE CO., MEMPHIS, TENN.**





## New Curves for Production Lines

HERE you see what the designer can really do for a production line from the vantage point of his drafting board.

For in these pieces, Mr. Loewy has not stopped designing the maximum comfort and utility obtainable with the fewest lines. The process of simplification continues right through to the assembly line. His furniture would be as easy to build as it is on the eye!

The reason for this lies in the tremendous war-spurred development of plywoods, impregnated with Durez resins. But let Mr. Loewy tell you himself how these "war" plywoods gave him ideas on furniture for the future...

"Today, if you were permitted to get inside some of our war plants, you would see plywood being *molded* into airplane wingtips and fuselages... superstructures for PT boats... whole hulls for pontoon boats. The mere fact that plywood can be *molded* today suggests the future possibility of molding it for furniture. Thus... as you can see from the background of the above rendering... the basic frame could be first cut out in one operation from a single piece of plywood. Then, molded

as desired into the finished design! There, you have a real step forward in furniture production economies."

Here is just one of the future developments awaiting plywood's return from the fighting fronts. Lighter than metal and infinitely stronger than wood at present... these plywoods promise even greater possibilities and improvements as a result of continuous Durez research that seeks ever new and better resins so vital to their manufacture.



KAYMOND LOEWY  
Industrial Designer

DUREZ PLASTICS & CHEMICALS, INC.  
450 WALCK ROAD, NORTH TONAWANDA, N. Y.

# DUREZ

PLASTICS THAT FIT THE JOB



**FRAMEWORK ANALYSES.** *Structural Frameworks*, 272 pp., 5½x8¾. This book serves as a useful text or reference book for the analysis of complex modern structures, including industrial plants, radio and transmission towers. Calculation methods and numerous examples assist the designer and student in setting up his particular problems and figuring stress analyses with accuracy. By Clyde T. Morris and Samuel T. Carpenter, published by John Wiley & Sons, Inc., 440 Fourth Ave., New York, N. Y. Price \$4.

**FOUNTAINS AND SHOWERS.** *Catalog No. 4308*, 16 pp., 8½x11. Booklet contains illustrations and information on new wash fountains, multi-stall showers and drinking fountains which have been redesigned to save vital war materials. It includes specification data and washroom planning suggestions. Bradley Washfountain Co., North 22nd & West Michigan Sts., Milwaukee, Wis.

**REINFORCED BRICK.** Two contributions to masonry research initiated by the Structural Clay

Products Institute:

**Mortar Bond Characteristics of Virginia Brick**, 47 pp., 6x9. This pamphlet studies the effect of brick texture on tension-bond strength. This effect was determined for various suction rates of brick and various mortar consistencies or flows. By John W. Whittemore and Paul S. Dear, published by Virginia Polytechnic Institute, Blacksburg, Va. **Bond Tests Between Steel and Reinforced Brick Masonry**, 32 pp., 9x11½. Report describes series of tests made to study the bond between reinforcing bars and mortar in which bars are embedded in reinforced brick masonry. This bond is essential to the development of tensile or compression stresses. By F. E. Richart, tests conducted by Engineering Experiment Sta., University of Chicago, Chicago, Ill.

**PLYWOOD Plywoods, Their Development, Manufacture and Application**, 373 pp., 5½x8¾. This extremely comprehensive book, which is well illustrated with both drawings and photographs,

gives the layman an excellent all-round knowledge of the subject. It provides practical data for the architect, builder and construction engineer. As indicated in the preface by Lawrence Ottinger, president of U. S. Plywood Corp., the rapid development of plywood in this country, both hard- and softwoods, together with new wartime techniques and applications, will have great significance for postwar building. By Andrew Dick Wood and Thomas Gray Linn, published by Chemical Publishing Co., Inc., 24 Court St., Brooklyn, N. Y. Price \$4.

**CONCRETE.** *Universal Atlas Handbook of Concrete Construction*, 8th ed., 274 pp., 4½x7¼. Handbook provides practical information on both plain and reinforced concrete. Although it does not attempt to give detailed information on all types of structures, it thoroughly covers the principles of concrete construction and is illustrated with many drawings and photographs. Published by Universal Atlas Cement Co., 135 East 42nd St., New York 17, N. Y.

**STRUCTURES.** *Steel and Timber Structures*, 2nd ed., 733 pp., 8¼x9¼. Revised edition of modern civil engineering structures embodies recent design and construction procedures. New material includes design of timber highway bridges and latest ASTM specifications for several basic products and materials. Edited by G. A. Hool and W. S. Kinne, revised by R. R. Zippert and D. M. Griffith, and published by McGraw-Hill Book Co., Inc., 330 West 42nd St., New York N. Y. Price \$6.

**UNIT HEATERS.** *Modine Style S/S Vertical Delivery Unit Heaters*, Bulletin 143-B, 8 pp., 8½x11. New series of heaters with steel condensers is described and illustrated, giving complete engineering data. Condenser, tube and fin assemblies are protected against corrosion with a lead alloy coating. Modine Mfg. Co., Racine, Wis.

**GLASS BLOCK.** *Methods of Replacing Worn-out Windows with Insulux Glass Block*, 24 pp., 8½x11. Booklet describes in detail typical construction, technical and specification data for glass block installation. Photographs of industrial installations show that glass block replacement results in the following advantages: reduced heat loss and gain, critical material savings, improved lighting, reduced maintenance, elimination of dirt and dust infiltration and improved appearance. Insulux Products Div., Owens-Illinois Glass Co., Toledo, Ohio.

**FINISHES.** *Steelcote Industrial Maintenance Finishes*, *Catalog No. 42*, 32 pp., 8½x11. Line of industrial enamels, paints and coatings for specialized requirements solves many processing and maintenance problems. Steelcote Mfg. Co., St. Louis, Mo.

**WELDING DESIGN.** *Practical Design for Arc Welding*, 40 sheets, 8½x11. This design service is really a series of plates on authentic methods of welding-procedure. Forty loose leaf sheets are now available, with more in preparation to cover such fields as building, construction, transportation, machinery and equipment, refrigeration etc. By Robert F. Kinkead, The Hobart Bros., Box EW86, Troy, Ohio.

**SIGNALS.** *The Buyer's Book of Electrical Signals*, *Catalog No. 42*, 54 pp., 9x11¼. Catalog has complete specifying and buying information on line of industrial and marine signals, together with a guide to good signaling. Schwarze Electric Co., Adrian, Mich.

**DIESEL POWER.** *Fairbanks Morse Diesels for Profitable Power*, *Bulletin 3000A*, 24 pp., 8½x11. Handsome booklet includes a brief history of company, particulars on design, manufacture and service facilities of marine and stationery Diesels. Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago 5, Ill.

**FIBERBOARD.** *Recommended Commercial Standard TS-3542 for Homogeneous Fiber Wallboard*, 7pp., 8x10½. This standard provides minimum specifications for one grade of wallboard. It covers physical requirements and tests for tensile and transverse strength, deflection, water adsorption and linear expansion. *Commercial Standard CS42-43 for Structural Fiber Insulating Board*, 3rd ed., 9 pp., 8x10½. Standard establishes definite criteria for five classes of structural fiber insulating board: building, lath, roof, interior and sheathing. National Bureau of Standards, U. S. Dept. of Commerce, Washington, D. C.

## REQUEST FOR LITERATURE

John Gordon Rideout Co., Industrial Designers, Chagrin, Ohio, would like to receive catalogs and design data on materials suitable for incorporation in postwar prefabricated houses.

## Atlas WHITE News

Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., N. Y.

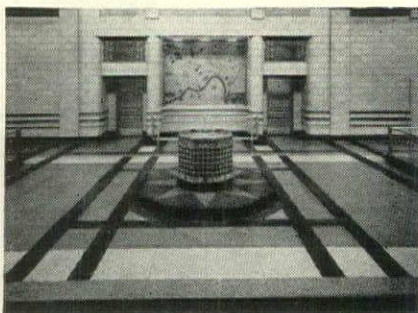
# FINE TERRAZZO GIVES YOUR DESIGNS A LIFETIME OF BEAUTY

## Floors in the Cincinnati Water Works Colorfully Decorated with Fine Terrazzo

Beautiful buildings deserve floors that stay beautiful even though foot travel on them is heavy. Long-wearing *Fine Terrazzo* made with Atlas White portland cement gives floors a rich beauty and distinction that lasts for the lifetime of the building.

*Fine Terrazzo* provides a smooth surface that is easy to clean. Colors and designs are exact reproductions of whatever you want them to be. They will retain their original freshness, without replacement or repair.

For floors of beauty use *Fine*



The *Fine Terrazzo* floor, Cincinnati Water Works, Cincinnati, Ohio, is made with Atlas White Cement. Martina Mosaic and Tile Co., Cincinnati, terrazzo contractor.

\* \* \*

*Terrazzo* made with Atlas White portland cement. Use it for both exteriors and interiors. (See Sweet's Architectural File, Section 11-19.)

## Tile-Grout Mortar

Tile-Grout mortar made with nonstaining Atlas White portland cement produces a durable joint that enhances the decorative beauty of tile. It may be prepared on the job or purchased factory-prepared. When properly mixed and applied, this mortar will not flake or powder, and will not stain the masonry.

AF-C-8

Write for more news and helpful information about these and other uses of Atlas White cement: Stucco, Portland-Cement Paint, precast Architectural Concrete Slabs, Light-Reflecting Floors. Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.



# THE GREEN LUMBER CO.



P R E F A B R I C A T O R S   F O R   W A R



R E A D Y   F O R   P O S T W A R

THE GREEN LUMBER CO.  
LAUREL, MISSISSIPPI





SONNEBORN'S

# LAPIDOLITH LIQUID

Patented  
Concrete Hardener  
and Dustproof

*This Won't  
Happen When You  
Specify LAPIDOLITH  
LIQUID*

**T**ODAY—more than ever, you have to be sure that the concrete floors in the building you are designing will stand up under heavy-duty use.

Once production begins, hours lost, whether due to the necessity of repairs or to the labor expended in keeping concrete floors dust-free—means money lost.

A twenty-five year performance record shows that a Lapidolized concrete floor is capable of withstanding the hardest punishment to which industrial floors are exposed.

The new patented features found only in Lapidolith assure even greater effectiveness—deeper penetration, and greater hardness.

Tests conducted in outside engineering laboratories amply demonstrate that Lapidolized concrete is more than twice as hard as untreated concrete.

Lapidolith Liquid is easy to apply and its use on new or old floors will not interfere with the occupation or use of a floor.

Write Dept. F5 today for the free booklet, "Concrete & Lapidolith," with a Lapidolized sample which is suitable for a paperweight. It gives accurate, factual performance data. It shows why Lapidolith Liquid is the wisest choice for protecting old and new concrete floors.

**L. SONNEBORN SONS, Inc.**

SECTIONS 5 17  
21 18  
88 LEXINGTON AVENUE  
NEW YORK, N. Y.



Where Results Count—Count on Sonneborn



*Bathe-Rite*  
SHOWER CABINETS

## ... using STEEL ... where STEEL is best ... means greater RIGIDITY in BATHE-RITE SHOWER CABINETS

**T**HAT'S why there can be no successful "skimping" of STEEL—where Steel is necessary—a fact that the War Production Board recognizes in allowing the 24 pounds used in BATHE-RITE Cabinets.

Project Contractors have reason to know the extra value of Bathe-Rite's Steel Frame construction. For they have found that, while saving time, labor and money in Bathe-Rite's "quick-assembly" features are important, the final measure of value is the strength, sturdiness and rigidity of the finished assembly. . . . Long-life service and complete satisfaction in use.

Today, Bathe-Rite Shower Cabinets are proving their EXTRA VALUE—from every standpoint of easy installation, appearance, convenience, sturdiness, rigidity, long life—in new, remodeled, renovated homes, and in factories, institutions, hospitals, schools. After the war this reputation for quality will be more important than ever—remember Bathe-Rite.

### Bathe-Rite "Steel-Framed" Shower Cabinets

Made in two standard sizes to fit all needs. Comply with W.P.B. regulations.


WRITE OR WIRE FOR DETAILS. Give name of project and quantity required, if possible. Delivery assured on any quantity.



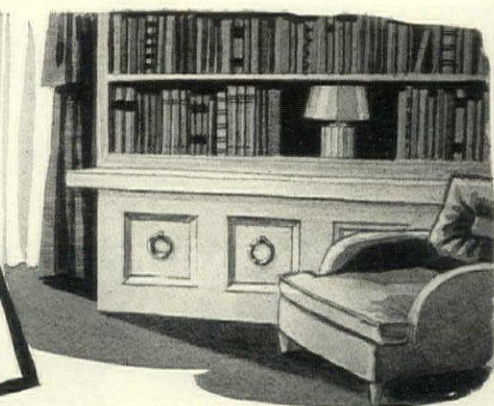
*Bathe-Rite* Division  
MILWAUKEE STAMPING COMPANY  
827-S South 72nd Street  
Milwaukee 14, Wisconsin

*Bathe-Rite* "STEEL FRAMED" SHOWER CABINETS

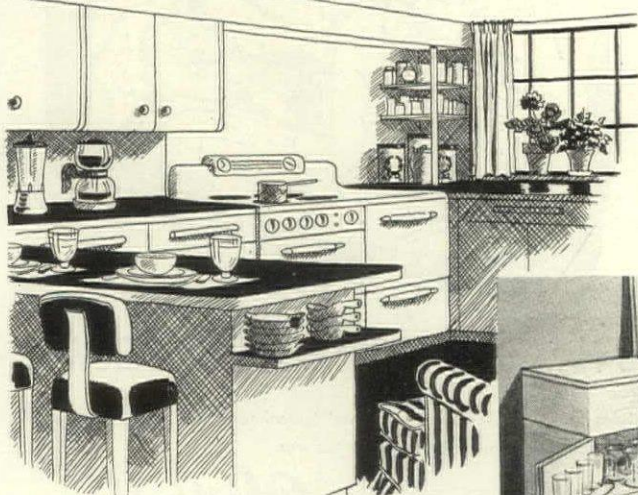




# The *Post-War Home* of the Robert Formans of Port Chester, New York



"Bookcases will be built into the wall to hold our 700 books."



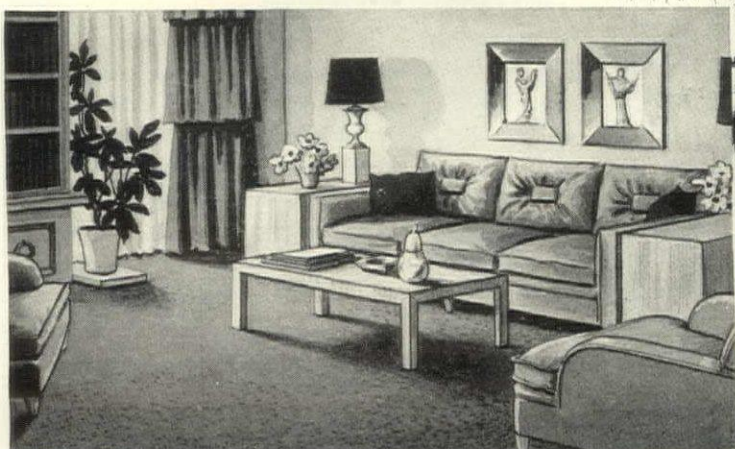
"In the kitchen will be a breakfast bar with four tall stools with backs. Also a desk for me and a cretonne slip-covered chair where my husband can sit and talk to me or my son read his lessons to me or I can mend or read while I watch a roast or bake a cake. Everything in the kitchen will be white."

"Against the living room wall a bar concealed in a table with built-in radio on top. Every room in the house, including the bathroom, will have a radio."

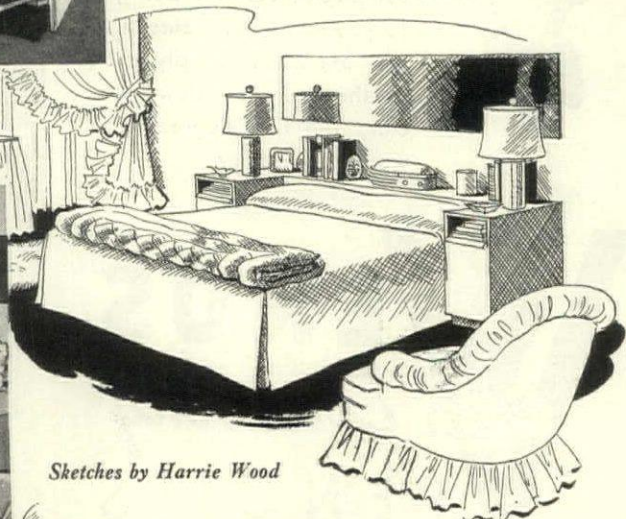


The ideas shown on this page are from Mrs. Forman's prize-winning letter in the Alexander Smith "How We Hope To Fix Up Our Home After the War" contest. The thousands of ideas received in this contest are guiding us in our post-war styling. To assure yourself of post-war carpet geared to what we *know* women want in their post-war homes, specify Alexander Smith.

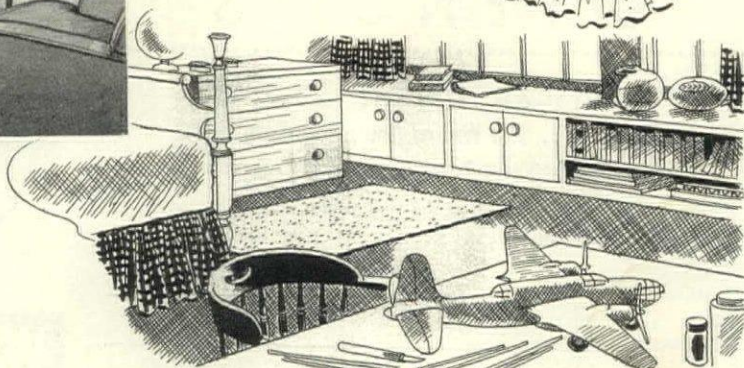
"Our bedroom will be blond maple furniture on a solid rose-colored rug that goes wall-to-wall. Under the vanity bench will be a bearskin." (Even though Alexander Smith doesn't make them!)



"No dainty period furniture for us, but large, sturdy comfortable modern pieces in white washable wood. Our living room rug—a plain beige—will fit the corners of the room perfectly. No mopping around narrow edges for me! The pile will be as thick as we can afford for deep pile shouts luxury as well as being easy on tired feet."



Sketches by Harrie Wood



"The furniture in our son's room will be sturdy red maple. He will have a large linoleum-topped table on which he can build train sets, make model planes, do school maps, etc."

## ALEXANDER SMITH CARPETS

295 Fifth Avenue, New York 16, N. Y.





## "LEND OR LEASE, MR. SMITH?"

Apparently you can't rely on this borrowing gent.

But you can rely on the Venus Drawing Pencil. Each Venus Drawing degree of hardness is exact and unvarying—so that a 2H, for instance, is always the same, identical 2H. That's vital—and it's true of all 17 Venus Drawing degrees. Venus Drawing lead holds the point you give it—and is smooth, from first sharpening to final stub...Because they can rely on it, more draftsmen, architects and engineers use Venus Drawing than any other make.

May we send you free samples of Venus Drawing—so you can test it yourself at our expense? Simply mail us the coupon below—circling the two degrees you would like to try.



# VENUS

*Drawing*

# PENCILS

**American Pencil Company**  
Dept. 172, 500 Willow Ave., Hoboken, N. J.  
In Canada: Venus Pencil Company, Ltd., Toronto

Please send FREE samples of the two grades circled:

9H - 8H - 7H - 6H - 5H - 4H - 3H - 2H - H - F - HB - B - 2B - 3B - 4B - 5B - 6B

NAME and title \_\_\_\_\_

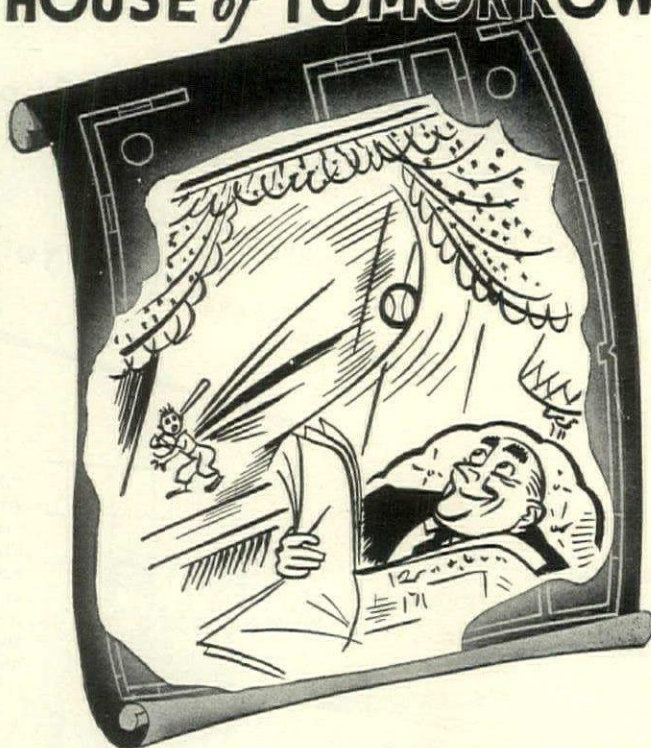
FIRM NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

AMERICAN PENCIL CO. NEW YORK - VENUS - DRAWING - HB

## BLUEPRINTS FOR YOUR HOUSE of TOMORROW



## YOU MAY HAVE UNBREAKABLE WINDOWS!

Plexiglas and Lucite, used for rear-gunners' "greenhouses" are being suggested for use in your windows after the war.

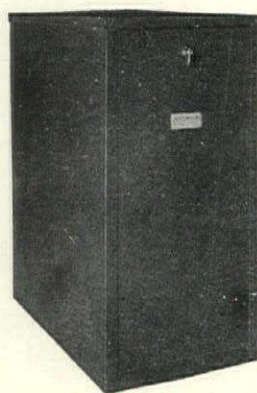
BUT -

*Your Heating Plant will*  
**be KOVEN WATERFILM**

Yes, the ultra-modern home will be created with many new inventions. As up-to-date and convenient as any of them will be your KOVEN WATERFILM boiler, then, as now, the fastest steaming boiler on the market. KOVEN WATERFILM combines the latest scientific improvements into an efficient and economical piece of equipment. Important advantages of the KOVEN WATERFILM boiler are:

- quick heat
- even room temperature
- plenty of domestic hot water
- increased economy of operation

You are planning for the future when you plan on KOVEN WATERFILM for your home.



## WATERFILM BOILERS, Inc.

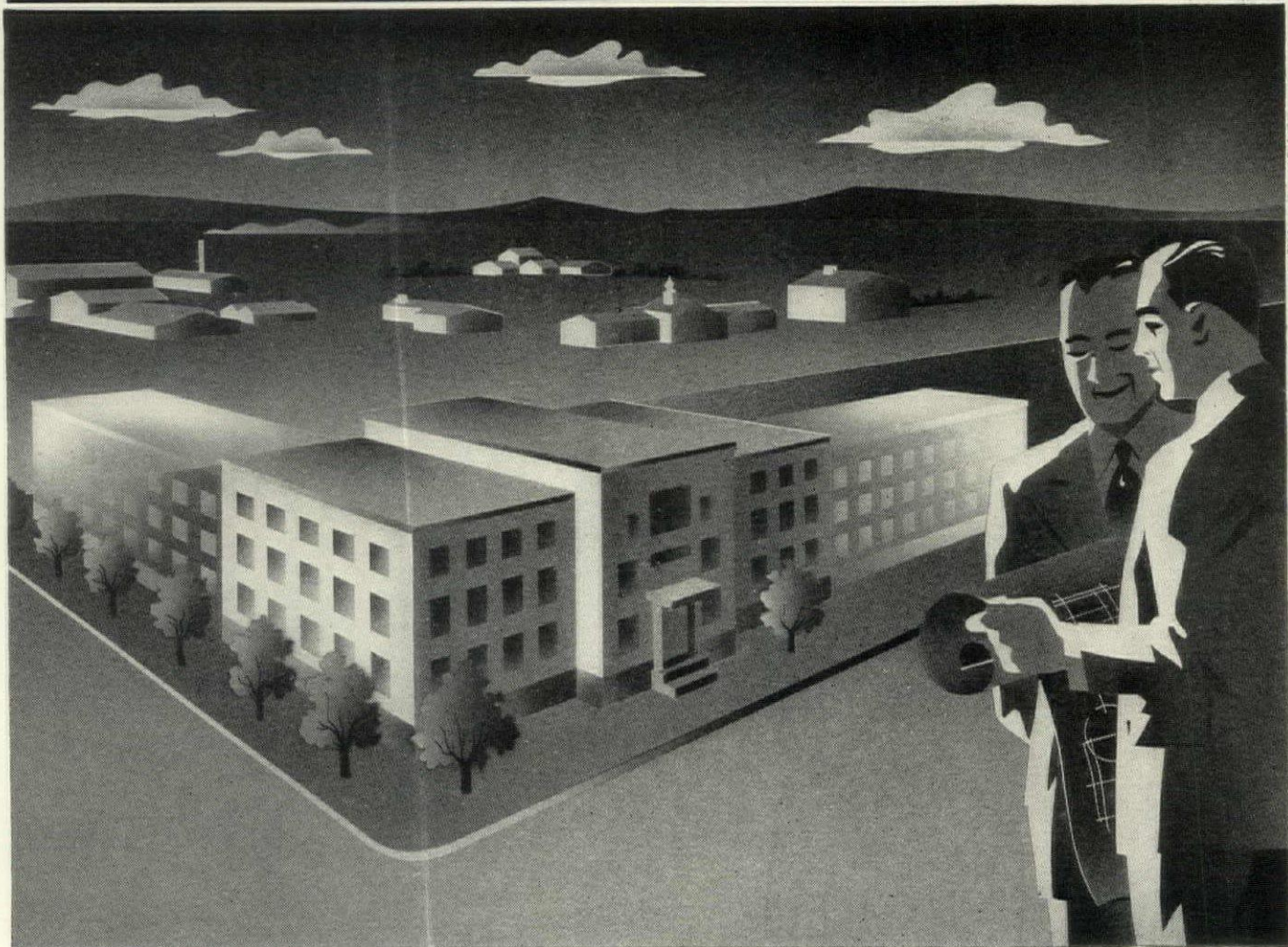
154 OGDEN AVENUE

JERSEY CITY, N. J.

PLANTS: JERSEY CITY, N. J. • DOVER, N. J.



# Picture of a hospital growing wings



**More hospital space is needed—immediately. How would you get the additional wings for this hospital up and ready for use in the quickest possible time?**

ONE WAY to speed wartime construction on this job—and many others—is to use Atlas High-Early cement. Specify it for foundations, floors, columns, walls. Wherever you would use ordinary portland cement, Atlas High-Early will do the job in less than the usual time.

If you want to get a "Rush" job off to a flying start, *begin* with this speedy cement. Then if unforeseen delays occur, you'll be better able to meet the completion date on time. Or, if the job is under way and has been unavoidably slowed up, call on High-Early to help you make up lost time.

For every wartime construction

job that demands *speed*... airports, cantonments, factories, housing, bridges, roads and hospitals... specify Atlas High-Early. You can rely on it to give you durable, serviceable concrete... *in a hurry*.

Check over the five facts listed in the adjoining box. Use Atlas High-Early cement, and save valuable time, manpower and equipment. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

**OFFICES:** New York, Chicago, Albany, Boston, Philadelphia, Pittsburgh, Minneapolis, Duluth, Cleveland, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

## CHECK ON ATLAS HIGH-EARLY for Wartime Construction

Atlas High-Early cement gains strength rapidly—produces serviceable concrete in one-fifth the usual time on some jobs. So it—

1. **Permits earlier use** of concrete, and thus gives owner earlier occupancy.
2. **Saves manpower** when such conservation is needed most—releases men for new jobs more quickly.
3. **Conserves lumber.** Forms may be stripped sooner—often in 24 hours instead of from 3 to 5 days—and re-used. Hence fewer sets of forms may be needed, saving time, labor and lumber.
4. **Shortens time required for protection and curing** as much as 70%.
5. **Reduces overhead** by saving time, manpower and equipment.

AF-H-54



# SAVE TIME IN WARTIME WITH Atlas High-Early Cement

A UNIVERSAL ATLAS PRODUCT





# Only Years of Experience—

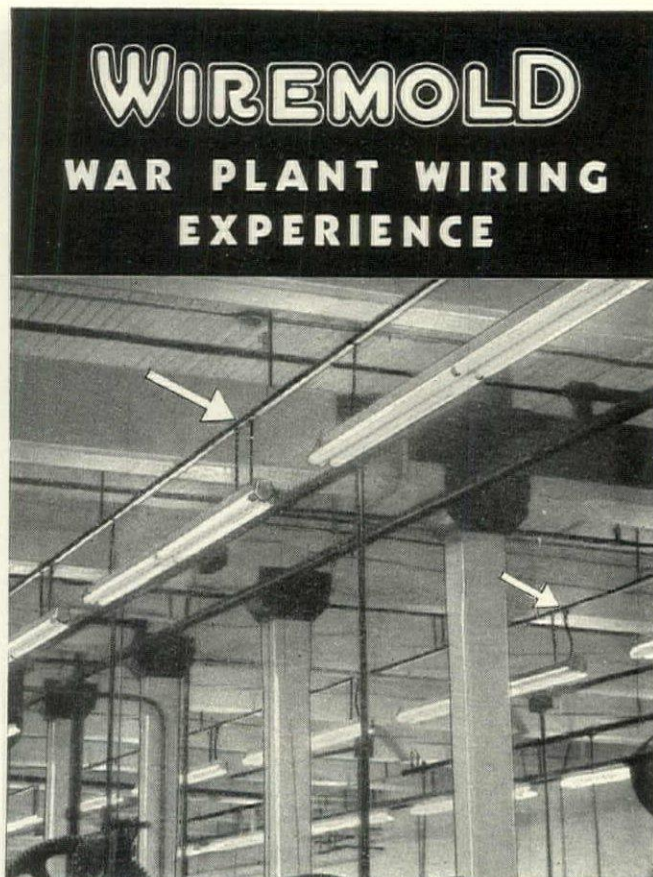
Can make a master craftsman; and only with the finest materials and methods can such an artisan meet Bilt-Well's rigid specifications



Our 77-year-old organization is made up of masters who have worked in wood throughout their lives. Many of them have never worked elsewhere than within the modern Bilt-Well plants.

While we are not prepared at this time to meet the demands for the complete Bilt-Well line because of priorities on war essential materials, some units remain available for war housing, remodeling and repairs.

**CARR, ADAMS & COLLIER CO.**  
Dubuque, Iowa



## *offers a suggestion* for POST-WAR PLANNING

The photograph above shows an interesting new use of No. 2100 PLUGMOLD as a wiring system for fluorescent lighting. The rigidity of No. 2100 made it possible to span factory beams and to suspend fluorescent units from the channel itself. Wiremold polarized outlets No. 2127P, spaced on approximately 10-foot centers, provide for easy disconnection of individual units for maintenance. By means of this polarized receptacle it is possible to satisfactorily ground the fluorescent units.

Wiremold Wiring Systems and Methods, extensively used to save time and assure greater efficiency in equipping both old and new buildings to meet war production demands, have resulted in many new applications that have an important bearing on future installations. Immediately available on suitable priority. Conform to Federal Specification W-R-32. Listed by U. L.



Architects and Engineers are invited to use the facilities of the Wiremold Engineering Department for consultation on plant wiring layout. Wiremold literature listed below will be sent to you promptly on request. The Wiremold Company, Hartford 10, Connecticut.

# WIREMOLD



IS HELPING AMERICA PRODUCE FOR **WAR** AND PLAN FOR **PEACE!**

### "HELPING HAND" LITERATURE FOR ARCHITECTS

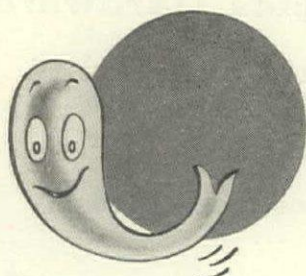
- |   |  |
|---|--|
| <input type="checkbox"/> Bulletin, "Wiremold Industrial System—Wiring Speeds War Production". | <input type="checkbox"/> Engineering Data Sheets No. "3000" System Wiring for Industrial plants. |
| <input type="checkbox"/> Engineering Data Sheets, Plugmold Multi-Outlet Wiring Systems.       | <input type="checkbox"/> "Pancake" Wiremold Overfloor Wiring System for Office and factory.      |
| <input type="checkbox"/> Wiremold Catalog and Wiring Guide                                    |  |

CHECK and return with your name and address



# HOW **PRECIPITRON**<sup>\*</sup> WORKS

Tests show  $99\frac{1}{2}\%$  of dirt removed  
by Electric Air Cleaning



Uncleaned air, from intake.



Mechanically-cleaned air.  
Large particles eliminated.

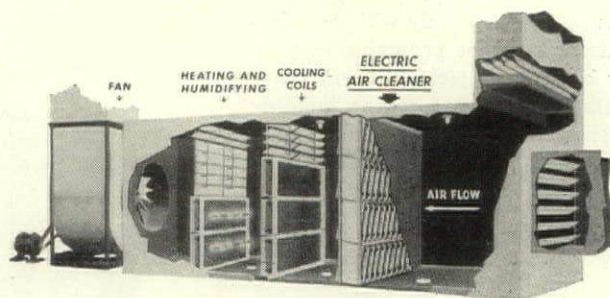


Electrically-cleaned air.  
Even small particles removed.

While there are many other methods of removing dirt from the air, none approaches the efficiency of *electrical* air cleaning. Blackness Tests—newest and most accurate means of determining air cleaning efficiency—show that Precipitron, the Westinghouse *Electric* Air Cleaner, removes more than 90% of ALL particles down to  $1/250,000$  of an inch in diameter (or on a weight basis,  $99\frac{1}{2}\%$  of all the dirt).

In making these tests, air is taken from the intake and exhaust sides of an installed air cleaning unit and passed through separate chambers containing small pieces of porous paper. The dirt in the air adheres to this paper—and upon completion of the test, the difference in “blackness” between the two pieces is determined, providing an accurate measure of the air cleaner’s efficiency.

The three circles at the left are representative of the results obtained. While ordinary air cleaners do remove a lot of dirt, they permit from 12 to 30 times as much dirt to get through into the circulating air as an electric air cleaner. This accounts for Precipitron being consistently chosen for those installations where really clean air is of vital importance. And for many other installations, too, due to its high efficiency and low operating cost.



Cross section of Precipitron installation in typical air conditioning duct.

Today, Precipitron Electric Air Cleaning protects precision parts from air-borne grit and dirt . . . cleans ventilating air for large rotating machinery in steel mills and power plants . . . removes oil mist and welding fumes . . . performs many other important jobs for America’s War Industries. For full information on Precipitron and its applications, write Westinghouse Electric & Mfg. Company, Edgewater Park, Cleveland, Ohio.

<sup>\*</sup>Trade-mark registered in U. S. A.

## Westinghouse Precipitron

PLANTS IN 25 CITIES OFFICES EVERYWHERE

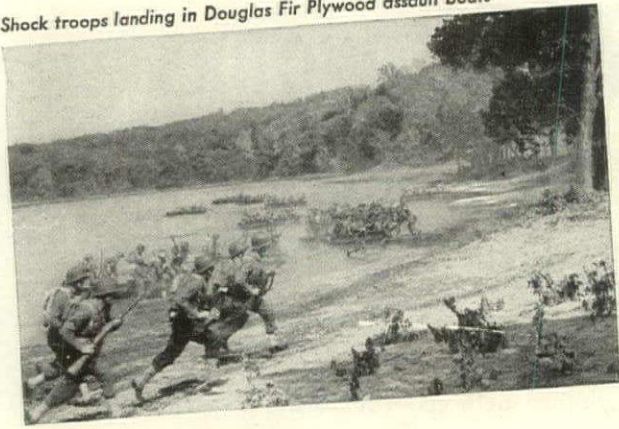
Tune in on John Charles Thomas, NBC, Sundays, 2:30 p.m., E.W.T.



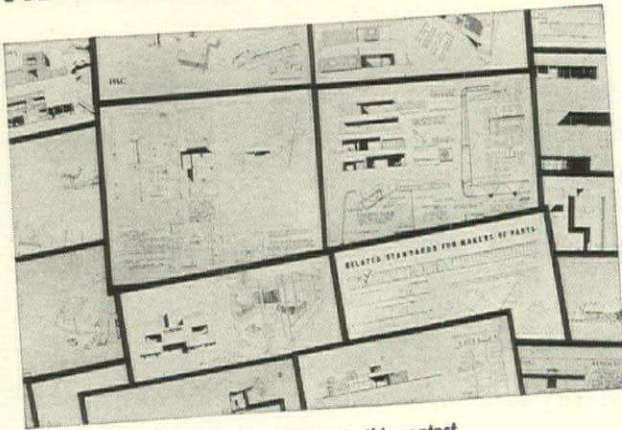
*Electronics at Work*



Shock troops landing in Douglas Fir Plywood assault boats



**Douglas Fir Plywood's many war uses are stimulating vital new design applications**



A few of the several hundred entries in this contest

## 88% OF THE "DESIGNS FOR POSTWAR LIVING" ENTRIES SPECIFIED PLYWOOD

● Additional proof that Douglas Fir Plywood's hundreds of war uses are stimulating the imaginations of architects, engineers, designers and builders, is California Arts & Architecture's recent "Designs for Postwar Living" Contest. Eighty-eight per cent of the entrants—including 7 out of the 8 winners—specified plywood. Many designed all-plywood structures. Others used this Miracle Wood for interior or exterior walls, sub-floors, built-ins and many other purposes. Sixty-six per cent of the entries were totally or partially prefabricated units. Because plywood has long been preferred by prefabricators, this tried and proven material was naturally specified in these designs.

If you are interested in a photographic review of Douglas Fir Plywood's war jobs, write now for free War Use Folder. Douglas Fir Plywood Association, Tacoma, Washington.

**DOUGLAS FIR PLYWOOD**

*Real Lumber*  
**MADE LARGER, LIGHTER  
SPLIT-PROOF  
STRONGER**

# Another Problem *Solved!*

**Grand Rapids Hardware  
Offers an Engineering  
Service for Your  
Prefabricating Plant**



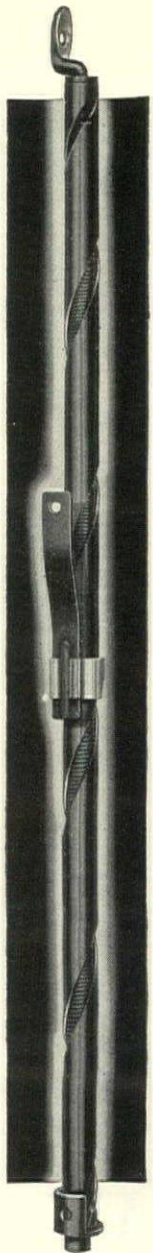
If you are losing any time on the installation of window assemblies and window sash operative hardware in line production of double hung windows—first, consider the Grand Rapids Invisible Sash Balance because it may be just what you are looking for. Second, consider the competent engineering service that is being offered you to assure speedy, dependable and economical installation of the Grand Rapids Invisible. This engineering service has been set up for the especial purpose of breaking bottlenecks in sash balance installation in line production. The trained services of one of our representatives is yours for the asking, until your particular problem has been solved. Not only will the information gained be profitable in your war housing projects, but will prove invaluable in the post-war building construction era. Your inquiry is invited.

1. Simplified top fastener. Easy to install. Permanent rigidity with one screw. Eliminates play and assures smooth, quick operation.
2. "Spring-Flex" Bearing Arm adjusts automatically to different degrees of sash fit. Practically eliminates wood clatter. Always smooth, quiet, snug.
3. Play-proof Guide Bracket opening exact diameter of balance bottom, giving close clatter-proof fit without binding.

1.

2.

3.



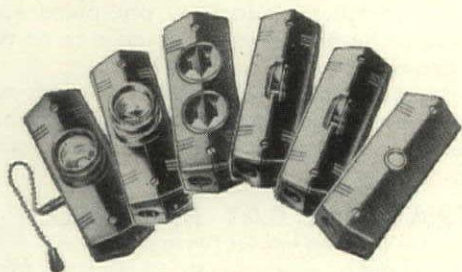
**GRAND RAPIDS HARDWARE COMPANY**  
GRAND RAPIDS • MICHIGAN



# G-E Wiring Material News

**MATERIALS AVAILABLE FOR WARTIME WIRING**

## MONCOR Surface Wiring Devices



Specify these good looking surface devices for wiring in war housing, industrial buildings, cantonments, warehouses, etc. They can be installed quickly either with cables concealed or exposed. They are made of brown Textolite . . . keep their color . . . resist moisture and corrosion. Line includes single-pole switch, 3-way switch, convenience outlet, three different lampholders and a rosette.

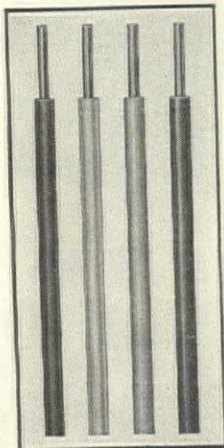
## G-E BRAIDX

### Non-Metallic Sheathed Cable

Specify this high quality cable for factory wiring or rewiring and for wiring in war housing. It can be used in place of rigid conduit, EMT or BX wiring except in hazardous or wet locations. Two- and three-conductor G-E BraidX cables are available in sizes 14 to 4. They are also available with an additional non-insulated grounding conductor. There is a complete line of G-E boxes and fittings to use with G-E BraidX.



## SMALL DIAMETER FLAMENOL\* BUILDING WIRE TYPE SN



Specify this dependable, thermo-plastic wire for war purpose jobs. It is available again. The supply of resins has improved which makes them available for electrical conductor insulation wherever copper is allocated. Flamenol Building Wire is available in sizes 14 to 1,000,000 CM. It is ideal for branch circuits, feeders or special wiring. Its insulation is superaging, flame retarding and resistant to oils, moisture, acids, etc.

\*Reg. U.S. Pat. Off.

## Clip This Coupon

Send the coupon for further information on G-E products described on this page:

GENERAL ELECTRIC CO.  
Section CDW1039-26  
Appliance and Merchandise Dept.  
Bridgeport, Conn.

Sirs: Please send me information on the following materials for war-purpose wiring:

- ☐ Moncor Surface Wiring Devices
- ☐ Flamenol Building Wire
- ☐ BraidX Non-metallic Sheathed Cable

Name .....  
Address .....  
City ..... State .....

**GENERAL  ELECTRIC**



*It makes little ones out of big ones*



BIG homes are obsolete. But there's a famine in little ones. So get acquainted with Parsons Pureaire Kitchen. For there's nothing like it to ease the task of making many little homes out of one big one.

Set this complete, odorless, one-piece steel kitchen into the wall anywhere and one or two rooms promptly become a real home.

Put Pureaire into your plans for post-war building—remodeling, apartments, small separate dwellings. But remember, *none for sale until Victory.*

**TRAVERSE BAY MFG. CO.**

*(Affiliated with The Parsons Co.)*

15000 Oakland

Detroit, Mich.

P A R S O N S

*Pureaire*

K I T C H E N S



## SAMSON SPOT SASH CORD

*the most durable  
material for hanging  
windows*

★

WHERE THE NEED IS GREATEST  
Samson Braided Cords Serve Best  
Now and Always

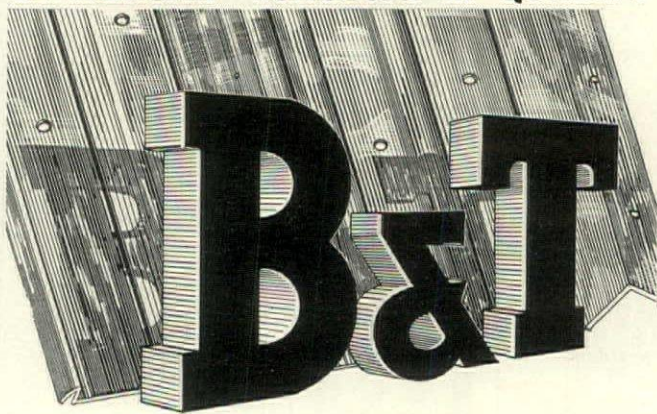
**SAMSON CORDAGE WORKS**  
BOSTON 10, MASS.

**SAMSON SPOT SASH CORD**



Reg. U.S. Pat. Off.

**LEADERSHIP** reflected in **QUALITY**



**METAL TRIMS** trademarked  
**CHROMEDGE**

Trademark Reg. U.S. Pat. Off.

The wide preference for B & T Metal Trims trademarked Chromedge is due to *Quality!* Quality in the materials from which they are fabricated—*quality of design*, from the standpoint of both beauty and utility—plus *quality of service* to those who specify, install and use B & T trims. These advantages will hold sway again, when Victory permits B & T to turn from war work to the production of metal trims trademarked Chromedge.

**Available**

Several shapes and sizes still available from pre-war stocks. Write for details.

**The B & T METALS COMPANY**  
Columbus 16, Ohio



# Careyduct

## AIR CONVEYING SYSTEMS

**AN INFANT**  
*yesterday...*  
**A GIANT**  
*today!*

Even before Pearl Harbor, CAREYDUCT was "going places" . . . highly favored by the air-conditioning industry because of its many superior advantages over insulated metal duct.

But during the war, with the urgent need for conservation of metal and labor, acceptance of this prefabricated duct has grown *tremendously*.

On many of the nation's largest air-conditioning installations—including the War Department Pentagon Building at Arlington, Va., on which CAREYDUCT saved 1,500,000 pounds of steel—this product has conserved war-vital metals, time and labor, in addition to providing increased operating efficiency and economy.

By specifying CAREYDUCT for present wartime construction, you assure these important advantages of conservation plus advanced efficiency features described below.

And in your future plans for *post-war* construction, CAREYDUCT logically recommends itself for primary consideration. Vast expansion of air-conditioning is sure to come after the war. On the basis of an outstanding performance record already achieved, this ultra-modern duct is obviously destined to be an *accepted, recognized* standard of efficiency and economy.

For catalog giving full particulars, write Dept. 20.

Coast Guard Station



Radio Station

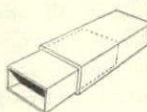


War Department Office Bldg.



# Careyduct

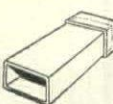
AVAILABLE IN 5 DIFFERENT TYPES



**1. Insulated and Acoustical Type**  
Made of Asbestos — combines both duct and insulation. Simple slip-joint construction and standardized parts provide easy and rapid fitting on job; "hushes" fan noises — reduces "speaking tube" effects.



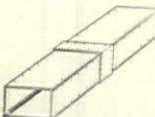
**2. Key-Lock Type**  
For high temperature applications. Impervious to water, and effective for temperatures up to 500°F. This duct is supplementary to Careyduct — Insulation and Acoustical Type. It is made from Carey Firefoil panel and is delivered knocked-down, with asbestos key for locking corners.



**3. Single-Wall Type**  
For use in heating and ventilating systems. It is an all asbestos product and is the same as inner core of the Careyduct — Insulated and Acoustical Type.



**4. Hinged-Corner Type**  
Fabricated of 1/8" asbestos board and is for use in residential heating jobs. It is delivered in cartons ready for assembly.



**5. Asbestos-Cement Type**  
Made of different thicknesses of asbestos-cement wall board, in sizes from 23 1/2" up. It is supplied with special asbestos corners and is shipped knocked-down, complete with duct turns, sheet metal screws, connector pieces and Careyduct adhesive.

## THE PHILIP CAREY MFG. COMPANY

Dependable Products Since 1873

Lockland, Cincinnati, Ohio

In Canada: The Philip Carey Company, Ltd.  
Office and Factory: Lennoxville, P. Q.



## Getting the job done!

Here's an organization that has the experience, ability and facilities to get your building job done for you . . . and on time!

In War or in Peace, it's performance that counts . . . and the records show this company has come through.

Wire or write for further information.

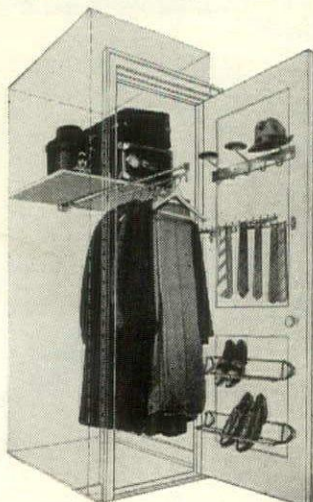


**McDONOUGH CONSTRUCTION CO.**  
PARKERSBURG, W. VA.

Operations — West Virginia . . . Texas . . . Ohio  
Louisiana . . . Pennsylvania . . . Virginia

## Space-saving —K-VENIENCE— Clothes Closet Fixtures

. . . will be absolutely a "must" in post-war housing, the obvious solution to neglected clothes closets, the demand for more closet space and truly useful, modern fixtures.



Photograph Courtesy Architectural Forum

★ They keep all apparel in handy reach, closets neat and orderly. Fixtures for shoes, hats, ties, trousers, skirts, towels, suits, belts, gowns, coats. Tracks, slides and rollers for doors, drawers and shelves.

**KNAPE  
& VOGT  
MFG. CO.**

Dept. F-10  
Grand Rapids, Mich.

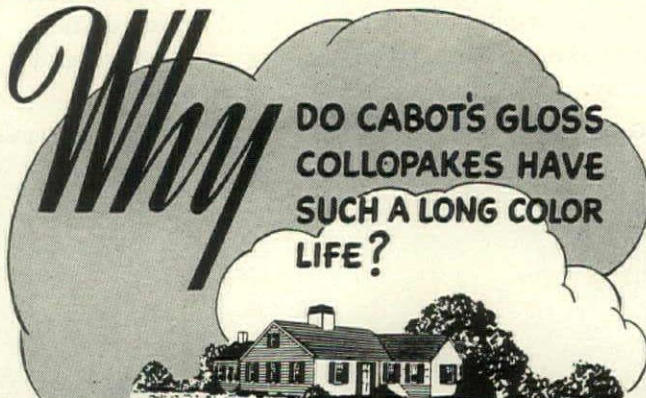


The administration of our huge Military Forces is big business. Large staffs of officers and men are needed to do the mountainous "paper work", and their headquarters are BUILDINGS, at every base throughout the nation. Much of the hardware required for doors, windows, and cabinets is supplied by Stanley.

Stanley's already large production facilities have been stepped up, but the demand for this, and other war requirements is unceasing. The Stanley Works, New Britain, Connecticut.

**STANLEY**  
HARDWARE

1843 **STANLEY** 1943



**T**HERE are no fillers in Cabot's Gloss Collophakes! The Greens, Blues, Browns and Reds—all colors—are made from pure pigments. By Cabot's patented Collophaking process pigments are ground to a submicroscopic fineness and colloiddally compounded in the oil. This means that oil and pigments are inseparably united—penetrate together—remain together—to form an unusually flexible and durable paint film. A film that provides the greatest possible color life.



### FREE—COLOR CARDS

Write today for color cards and your copy of "White House" containing full information. Samuel Cabot, Inc., 1274 Oliver Bldg., Boston, Mass.

**CABOT'S**  
DOUBLE-WHITE  
AND GLOSS COLLOPAKES



# MANY STRUCTURES OF THE 194X PERIOD NOW DOT THE AMERICAN SCENE

## BAR-GRILL



Flander's Bar-Grill, Philadelphia, Pa., Tilden, Register & Pepper, Architects; Virginia Black Serpentine Facing and Bulkheads.

## LIBRARY



Central Public Library, Brooklyn, N. Y., Githens & Keally, Architects; Alberene Black Serpentine Spandrels.

## LABORATORY



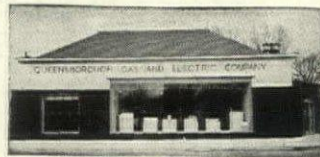
U. S. Dept. of Agriculture, Regional Research Laboratory Building, Wyndmoor, Pa., Alberene Tremolite Mullions.

## RETAIL STORE



Cord Building, Beverly Hills, Calif., Burton L. Schutt, Architect; Alberene Black Serpentine Facing and Bulkheads.

## OFFICE-STORE



Branch Building, Queensborough Gas & Electric Co., Valley Stream, N. Y., Voorhees, Walker, Foley & Smith, Architects; Alberene Black Serpentine Facing and Bulkheads.

## HOSPITAL



U. S. Naval Hospital, Bethesda, Maryland; Navy Dept., Architects; P. P. Cret, Consulting Architect; Alberene Black Serpentine Panels.

## SCHOOL



Public School No. 114, Bronx, N. Y., Eric Kebbon, Architect; Alberene Black Serpentine Paneling.

This advertisement, published as a tribute to the far-sighted designers of pre-Pearl Harbor days, was prompted by Architectural Forum's impressive May issue which featured "New Buildings for 194X" by prominent architects. In the main the facades call for panels or slab treatment in contrasting tones. Alberene *Dark Stones* meet the demand for permanent exterior

stones...economical because they can be supplied as thin as 7/8". Alberene Stone Corporation of Virginia, 419-4th Ave., New York 16, N. Y., Quarries and Mills, Schuyler, Va.

"Start an architect  
on a plan now" . . . —

*Alberene*  
**BLACK SERPENTINE**  
PERMANENT, NON-REFLECTIVE, ECONOMICAL



# Portable WAR HOUSE



This Portable War House, born of war-time urgency, but adequate for peace-time needs, is Houston Ready-Cut in tempo with the American sense of project.

At only \$300, this house "points the way" in meeting the present urgent demand for low-cost housing for farm, industrial and military personnel. Completely prefabricated, easy to erect—takes four men three hours. Very fine construction at the price.

You owe it to yourself to ask us for folder giving full details on this great value.

**\$300** F. O. B. HOUSTON  
PLAN 43-1

Buy a Home in the Peace to Follow with the Bonds You Buy Today

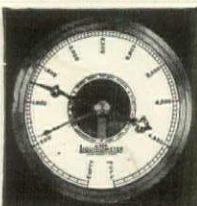
**HOUSTON Ready-Cut HOUSE CO.**  
*Prefabricators Since 1917*  
POLK AVENUE HOUSTON, TEXAS

*We Don't Grope Blindly When  
Measuring Valuable Stored  
Liquids... We  
Check  
With*  
**LIQUIDOMETER Tank Gauges**  
*"THEY'RE ALWAYS DEPENDABLE"*

Now, more than ever, industrialists realize the importance of having accurate measurements of their stored liquids available at all times. LIQUIDOMETER Tank Gauges insure true, convenient, hazard-free, 100% automatic readings. No pumps, valves, or auxiliary units required to read them. Models are available so that readings can be taken remotely from or directly at the tank. Remote reading types utilize balanced hydraulic transmission system which completely compensates for temperature variations on communicating tubing. Accuracy unaffected by specific gravity of tank liquid.

Approved for gauging hazardous liquids by Underwriters' Laboratories and similar groups. Models available to automatically control pumps, motors, signals or other devices for maintaining minimum or maximum liquid levels.

Write for complete details



THE **LIQUIDOMETER** CORP.  
36-30 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

protection in the public interest



to increase the

durability of **wood**  
**storm sash-**

—to give them increased resistance against possible deterioration, laboratory science has developed minimum standards of toxic preservation—a treatment designed to supplement the natural, lasting qualities of wood products under the severe demands of modern construction.

NATIONAL DOOR MANUFACTURERS' ASSOCIATION  
McCORMICK BUILDING • CHICAGO, ILLINOIS

Seal of Approval—The Identification of a Product Meeting N. D. M. A.  
Preservative Minimum Standards



LICENSE NO. **000** TOXIC-PRESERVATION  
**APPROVED**  
NATL. DOOR MFRS. ASSN.

FOR FURTHER INFORMATION SEE OUR CATALOG IN SWEET'S

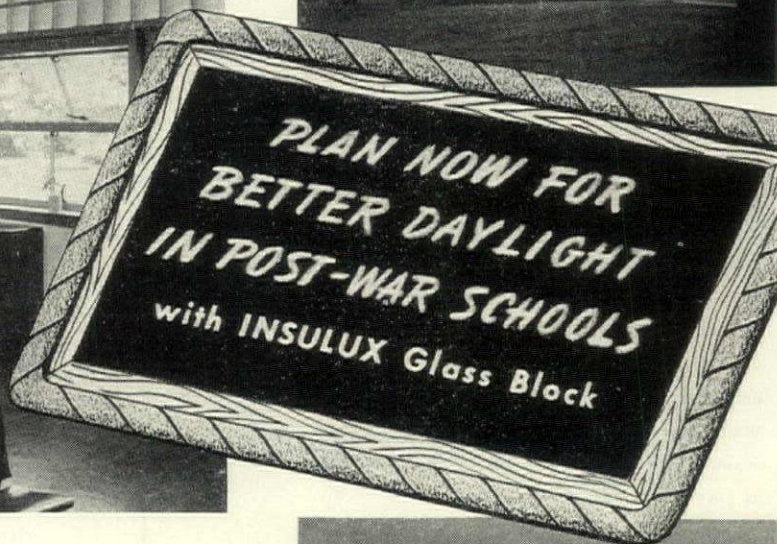
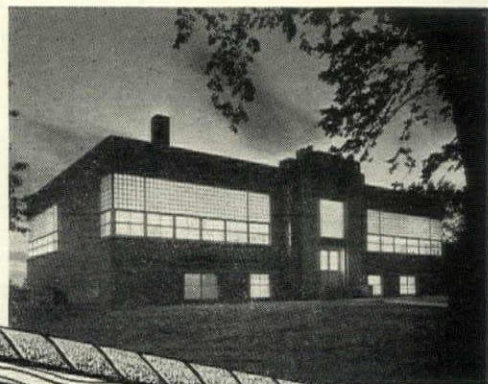
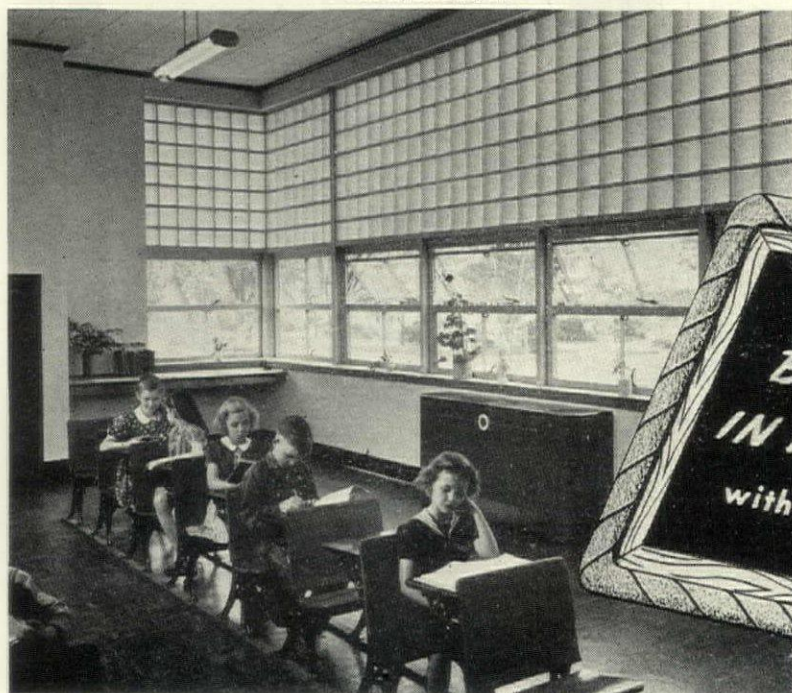


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**CLASSROOMS** get controlled daylighting from panels of INSULUX Glass Block. INSULUX also enhances the architectural beauty of modern schools. Classroom below, and exterior at right are Gridley School, Lincoln, Ill.

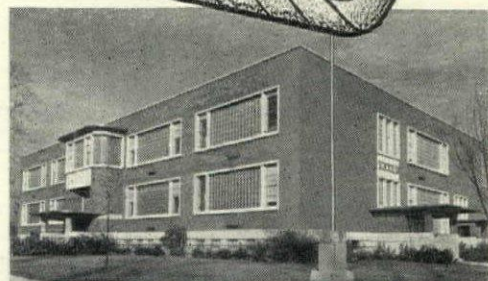


THE F. W. DODGE CORPORATION estimates that \$156 million will be spent on new schools after the war.

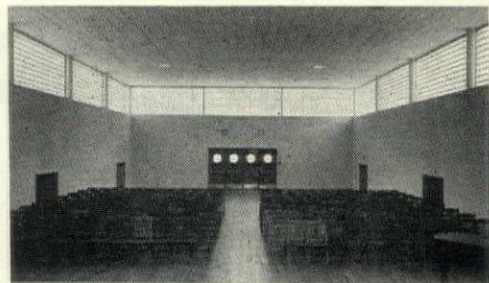
By using INSULUX Glass Block in light-transmitting areas, the schools *you* plan will get plenty of efficient daylight in classrooms, libraries, auditoriums, halls, cafeterias. INSULUX diffuses, directs, and distributes daylight *without glare*.

Heating costs, both initial and operating, are lowered by the high insulating value of INSULUX panels. Four-inch hollow glass block wall construction also prevents drafts, deadens distracting noises. INSULUX provides privacy. It is fireproof—non-combustible.

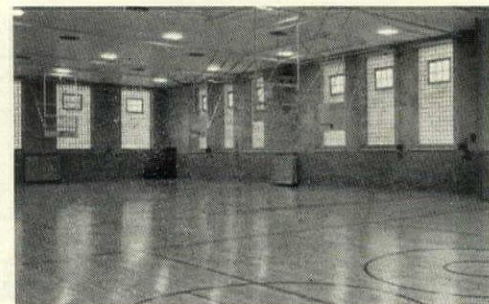
Technical data, specifications, details, can be obtained from our section in Sweet's Architectural Catalog, or by writing: INSULUX Products Division, Dept. 103, Owens-Illinois Glass Company, Toledo, Ohio.



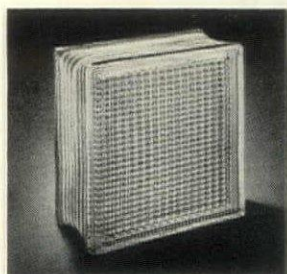
**ARCHITECTS** can use various combinations of INSULUX panels and windows for ventilation and vision. However they are used, INSULUX Glass Block protect young eyes from glare.



**AUDITORIUM** flooded with softly-diffused daylight from ceiling-high border of light-directional block. INSULUX holds in heat in winter, helps keep it out in summer.



**GYMNASIUM** gets full share of daylight, with privacy, from INSULUX panels. INSULUX is easy to keep clean, highly resistant to damage.



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**INSULUX**  
GLASS BLOCK



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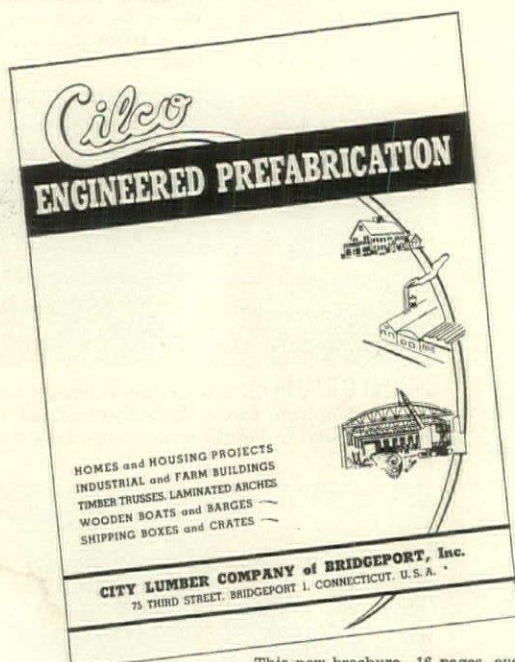
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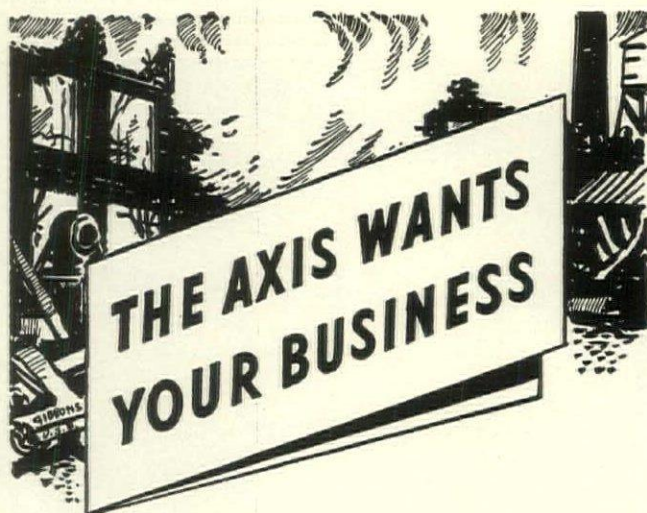


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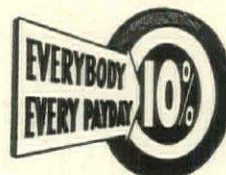
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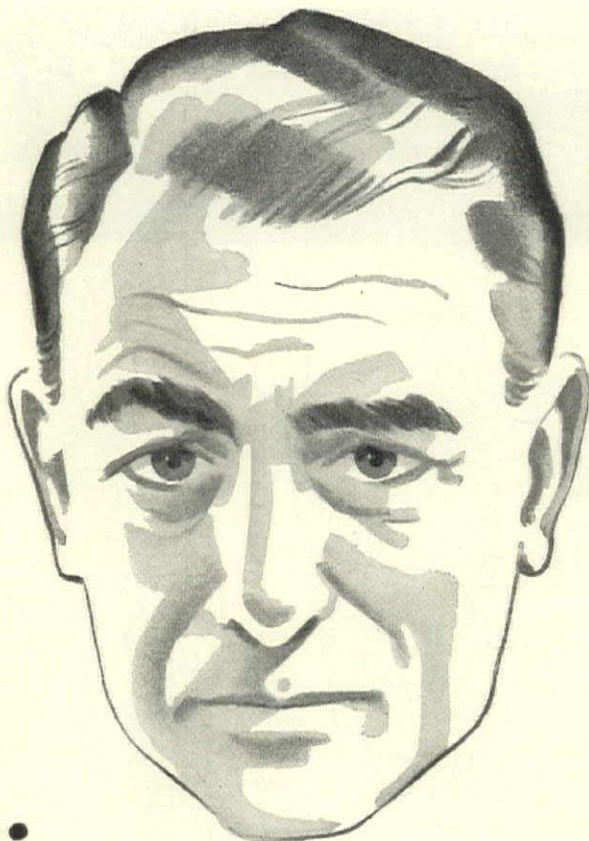
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Miss Smith! Please take a letter to ILG—let's find out what this booklet has to offer in the way of new developments in ventilating theory and practice!

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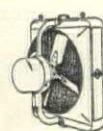
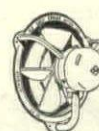
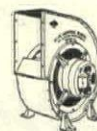
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# The Savoy-Plaza's report on *BRASS PIPE* ... after 15 years' service

**NO  
FAILURES**

**NO  
REPLACEMENTS**

**NO  
LOST REVENUE**



*The Savoy Plaza*

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Tenney & Olin, Consulting  
Engineers; George A. Fuller  
Co., General Contractors; Jarcho  
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THE Savoy Plaza Hotel, New York, will be permanently protected from rusty water by the use of Anaconda Brass Pipe for hot and cold water lines.

Jarcho Brothers, plumbing contractors, report that the use of this lifelong pipe with brass fittings added only 5.69% to the cost of the plumbing installation over the cost of the best grade of corrodible pipe and fittings. Anaconda Brass Pipe is trade-marked and guaranteed by The American Brass Company, General Offices: Waterbury, Connecticut. Offices and Agencies in Principal Cities.

Reprint of advertisement  
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## ANACONDA BRASS PIPE

That's what New York's fashionable Savoy-Plaza has to say about the Anaconda Brass Pipe installed for hot and cold water lines during construction of the hotel in 1928.

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No maintenance has been necessary other than that normally required by a building of this type. Also dur-

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For here—in Silentite—is a window manufactured to high precision standards. A window made of wood, with all of wood's natural insulating advantages. A window pre-fit for weather-tightness and ease of operation. A window that operates without weights and pulleys, requiring no cuts in the jamb. An *insulated* window, embodying one of the most efficient methods of weather-stripping known. And it's available through leading lumber dealers everywhere in America—sold as part of a complete line of stock architectural woodwork.

Today, Curtis research is continuing to explore window weather-tightness. To keep up to date on post-war windows, keep up with Curtis! Send for complete information about Curtis Silentite windows and Curtis stock Architectural Woodwork! Curtis Companies Service Bureau, Dept. AF-10S, Curtis Building, Clinton, Iowa.



*Handsome, modern windows such as this are characteristic of Curtis design and construction. These are the famous Silentite windows—the first basic improvement in window manufacture in nearly 300 years.*



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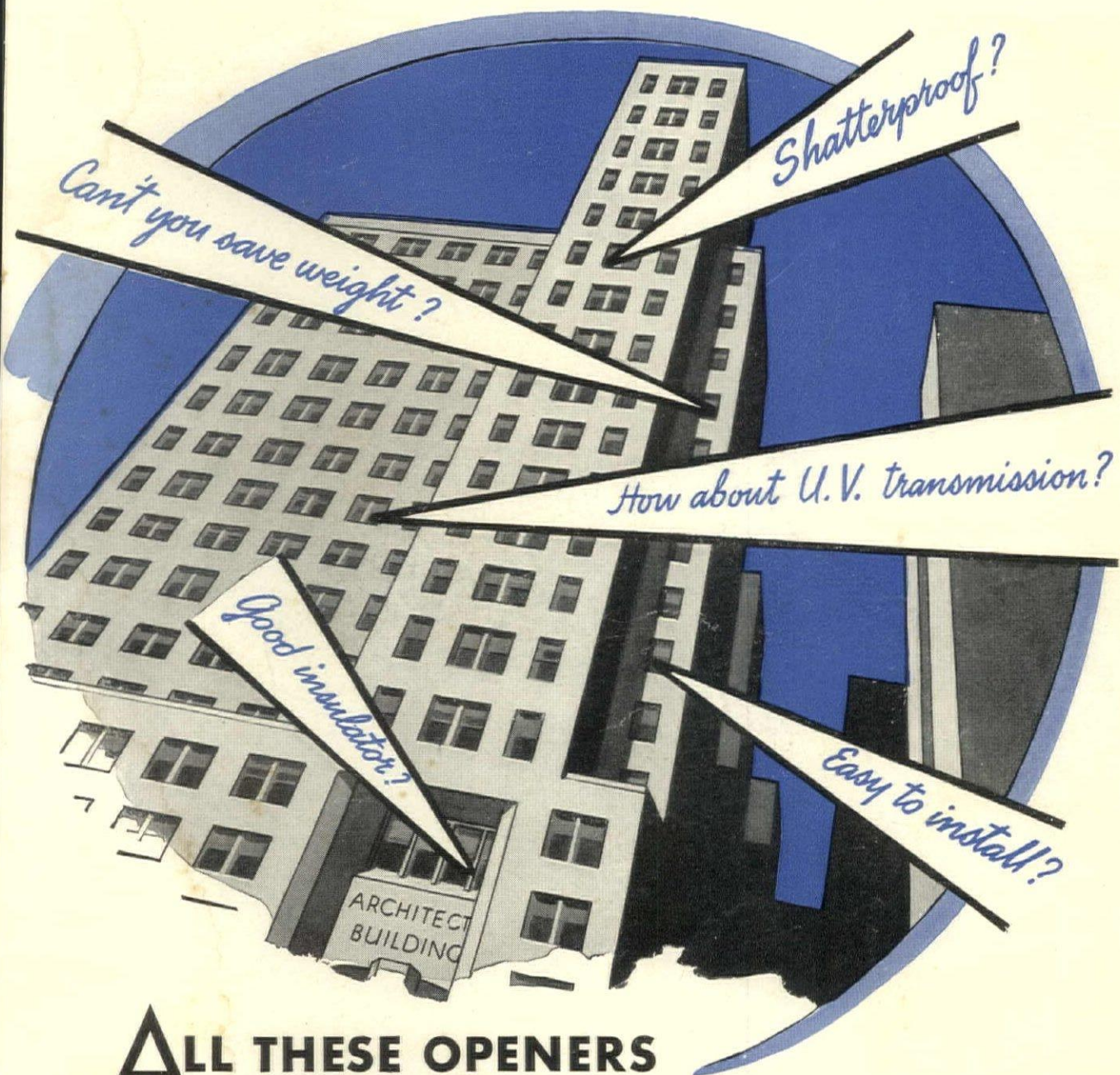


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The advertising pages of THE ARCHITECTURAL FORUM are the recognized market place for architects and all others engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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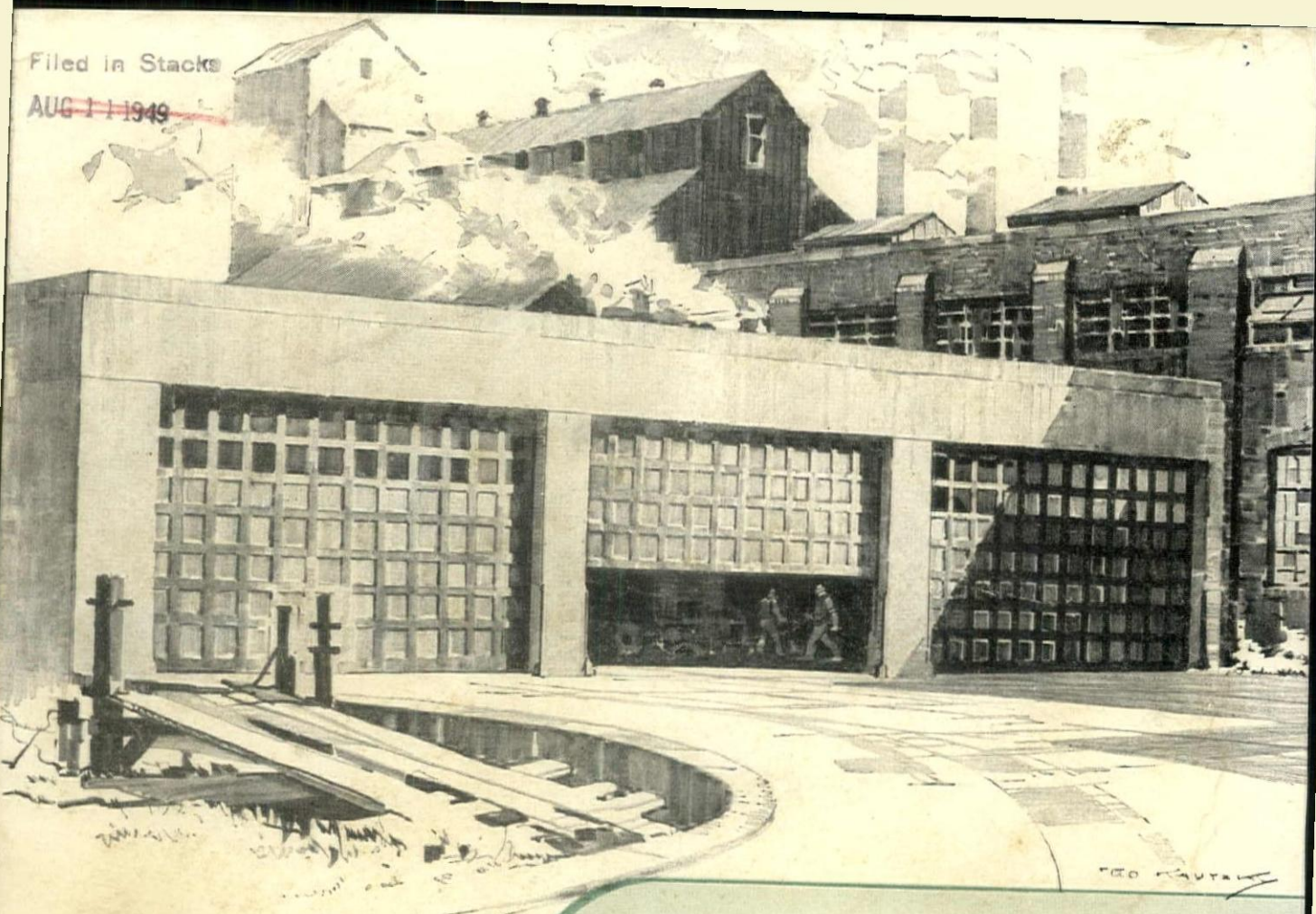
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